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JUNE 1978 • 75 CENTS

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For months, even years, they plan their assault. The fastest machines, the fastest men.

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Triumph® has been there since the beginning. From the first 10-motorcycle invitational in 1952, right through to 1977, when four more records were added for a total of 37 unbroken marks.

**UNBROKEN TRIUMPH RECORDS**

| Class | C.C. | M.P.H. | Date | Name |
|---|---|---|---|---|
| M-AF | 350 | 120.802 | 8-27-60 | Danny Macias |
| S-AF | 500 | 212.288 | 8-28-58 | Jess Thomas |
| P | 650 | 115.698 | 8-26-76 | Jon Minonno |
| M-C | 650 | 147.420 | 8-28-58 | Bill Johnson |
| M-AF | 650 | 146.266 | 8-23-66 | Don Harris |
| A-AF | 650 | 159.542 | 8-25-61 | Gary Richards |
| MPS-C | 650 | 140.541 | 8-27-66 | James Stephens |
| APS-AG | 650 | 130.938 | 8-26-70 | A.J.Drinker |
| APS-AF | 650 | 161.793 | 8-29-65 | Gary Richards |
| S-C | 650 | 205.785 | 8-22-62 | Bill Johnson |
| S-AF | 650 | 230.269 | 8-24-62 | Bill Johnson |
| M-AG | 750 | 141.284 | 8-22-69 | David Early |
| A-AG | 750 | 144.481 | 8-23-69 | Roosevelt Lackey |
| A-AF | 750 | 160.173 | 8-22-74 | Tim Durkee |
| A-AB | 750 | 163.194 | 10-2-74 | Woodrow Leone Sr. |
| APS-AG | 750 | 148.323 | 8-21-69 | Rusty Bradley |
| APS-AF | 750 | 169.331 | 8-23-69 | Jeff Gough |
| APS-AB | 750 | 172.038 | 10-2-74 | Woodrow Leone Sr. |
| S-AB | 750 | 163.122 | 10-8-77 | Jon Minonno |
| M-AG | 1000 | 154.246 | 10-25-73 | Gary Wilson |
| M-AF | 1000 | 166.362 | 10-1-74 | Jeff Bartlett |
| A-AG | 1000 | 150.502 | 8-23-75 | Jeff Bartlett |
| A-AB | 1000 | 180.836 | 9-26-75 | Jack Wilson |
| MPS-AG | 1000 | 164.928 | 10-24-73 | Gary Wilson |
| MPS-AF | 1000 | 184.123 | 10-1-74 | Jeff Bartlett |
| APS-AG | 1000 | 168.139 | 8-19-75 | Jeff Bartlett |
| APS-AF | 1000 | 175.437 | 9-27-75 | Jack Wilson |
| APS-AB | 1000 | 192.346 | 9-27-75 | Jack Wilson |
| S-AB | 1000 | 183.983 | 9-26-75 | Jack Wilson |
| M-AF | 1300 | 166.014 | 9-28-75 | Jack Wilson |
| A-AF | 1300 | 165.593 | 9-28-75 | Jack Wilson |
| A-AB | 1300 | 175.406 | 10-5-77 | Jack Wilson |
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| S-AB | 1300 | 183.957 | 10-6-77 | Jack Wilson |
| APS-AG | 1300 | 165.069 | 8-19-75 | Jon Minonno |
| A-AF | 2000 | 201.432 | 8-28-73 | James Angerer |
| APS-AG | 2000 | 169.828 | 8-29-73 | James Angerer |

We've had our moments.

Like the year Bud Hare set a 500cc record, blew a piston, improvised a counterbalance, then set a 250cc record on the same Triumph.

Or the day back in August 1958, when Willie Johnson pushed his 650cc Triumph to an unbelievable 147.420 mph. One of an incredible few unbroken records that have miraculously endured 20 years on the salt.

And there are hundreds of other Legends.

In fact, when you get down to it, Triumph has been setting records on the salt as long as anyone else in the sport. But then that shouldn't surprise anybody.

After all, making Legends is what we've always done best.

TRIUMPH®

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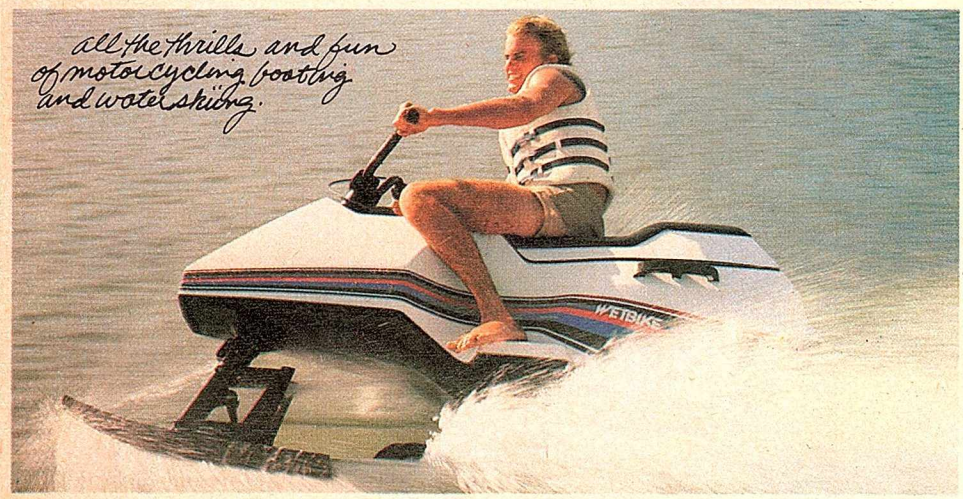



How it looks on paper:

| | |
|---|---|
| Hull length | 7.5ft |
| Width | 2ft. |
| Hull height | 3.5ft |
| Stationary draft | 2.5ft |
| Planing draft | 4 inches |
| Weight | 350 lbs. |
| Gas Capacity | 8 U.S. gals |
| Max Speed | over 30mph |
| Fuel Type | oil and gas mixture (50:1 ratio using Spirit Marine Oil) |
| Flotation Capacity | 2 adults |
| Engine Type | 2 cyl. 50 HP, 2 cycle 723cc. automatic bilge pump and blower. |

Meets all non-exempted U.S. Coast Guard regulations.
Specifications subj. to change w/o notice.

# A motorcycle on water? At first the idea seemed all wet.

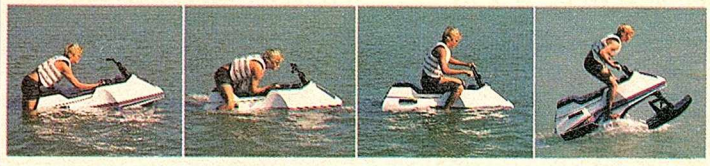
# Wetbike

It's new. It's imaginative. It's a combination of all the thrills and fun of cycling, boating, and water skiing. It's an experience. It's like nothing else before. It's the Wetbike watercycle.

It also sounds a little unbelievable. After all, how do you get a 350 pound motorcycle up on top of the water?

## Putting the principle of hydroplaning to work.

To get the feel of a motorcycle on water, Wetbike had to rise up and then skim across the top of the water. It had to hydroplane like a slalom water ski, but without the aid of a tow rope.



Then where would Wetbike's power come from?

## Jet vs. propeller.

At first, a conventional propeller driven outboard motor was tried. And tried. And tried.

Then came the idea of a jet pump drive. There was no exposed prop, which made it much safer. And the jet pump was noted for good solid thrust at the low end.

In every respect, Wetbike's specially designed jet pump drive proved to be ideal. Wetbike was up on the top of the water, running straight and true. But what if you wanted to turn?

Many months went into designing the front and rear skis. The results?

Wetbike can bank into turns with speed and agility. The riding position is very similar to that of a motorcycle. You lean into turns and forward into jumps. Even riding two up, the response and handling is quick and sure.

Should you fall, the engine automatically stops and the Wetbike settles, upright, into the water. And again, there's no propeller to worry about.

## The reliability of a proven engine.

To make sure you have more fun out on the water, we put in a time tested, trouble free engine. A 50 h.p. (723 CC) Suzuki-Spirit outboard powerhead. Each one is tested and run at the factory for 30 minutes. So when you turn on the electric start and hit the gas, you've got dependable power. Power to get Wetbike up on top of the water, into turns, over rolling waves, then back to shore. Time and time again.

## Ready to get your feet wet?

2A

Until you see the Wetbike in action, or better yet, get on one and ride, you're not going to feel the excitement that's there, just waiting.

The Wetbike watercycle. It's a whole new wave in water sports. And to get on it, send us the coupon below. We'll send you the name of the nearest Wetbike dealer.

Name _____

Address _____

City _____

State _____ Zip _____

WETBIKE

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# BMW'S "BALANCED PERFORMANCE" PART TWO:

You know how good you are. And how good you feel, up before the sun, pulling on your boots in the cold morning mist, looking for a great new piece of road to challenge, alone.

That's the kind of challenge you find with BMW's "balanced performance." So subtle, so well-created, it isn't obvious to the unskilled rider. So harmonious, it takes more than a few miles to reveal itself even to the best.

But spend a few hundred miles on a BMW, a few thousand, and you develop a deep-seated respect for the way the machine works, the way it reacts and responds to your inputs, the way it does its job.

Respect? Next time a hardline BMW owner starts to

**Our engineers and highly skilled test riders design great performance into every BMW. You have to be a top-notch rider to get it all out.**

*Right: The new R100S in red smoke metallic.*
*Left: The new R100RS in "Motorsport" colors.*

*Look for your local BMW dealer in the Yellow Pages, or write for our fine brochure. U.S. Importer: Butler & Smith, Inc., Dept. C-069, Norwood, NJ 07648/Compton, CA 90224. Canada: BMW Motorcycle Distributors, Ontario.*

preach to you about his machine, bite your tongue and listen carefully. He's not talking about the prestige of riding the best, nor the pleasure of knowing the finish on his bike is so elegant and superior. No, chances are he's talking performance. BMW performance. "Balanced performance."

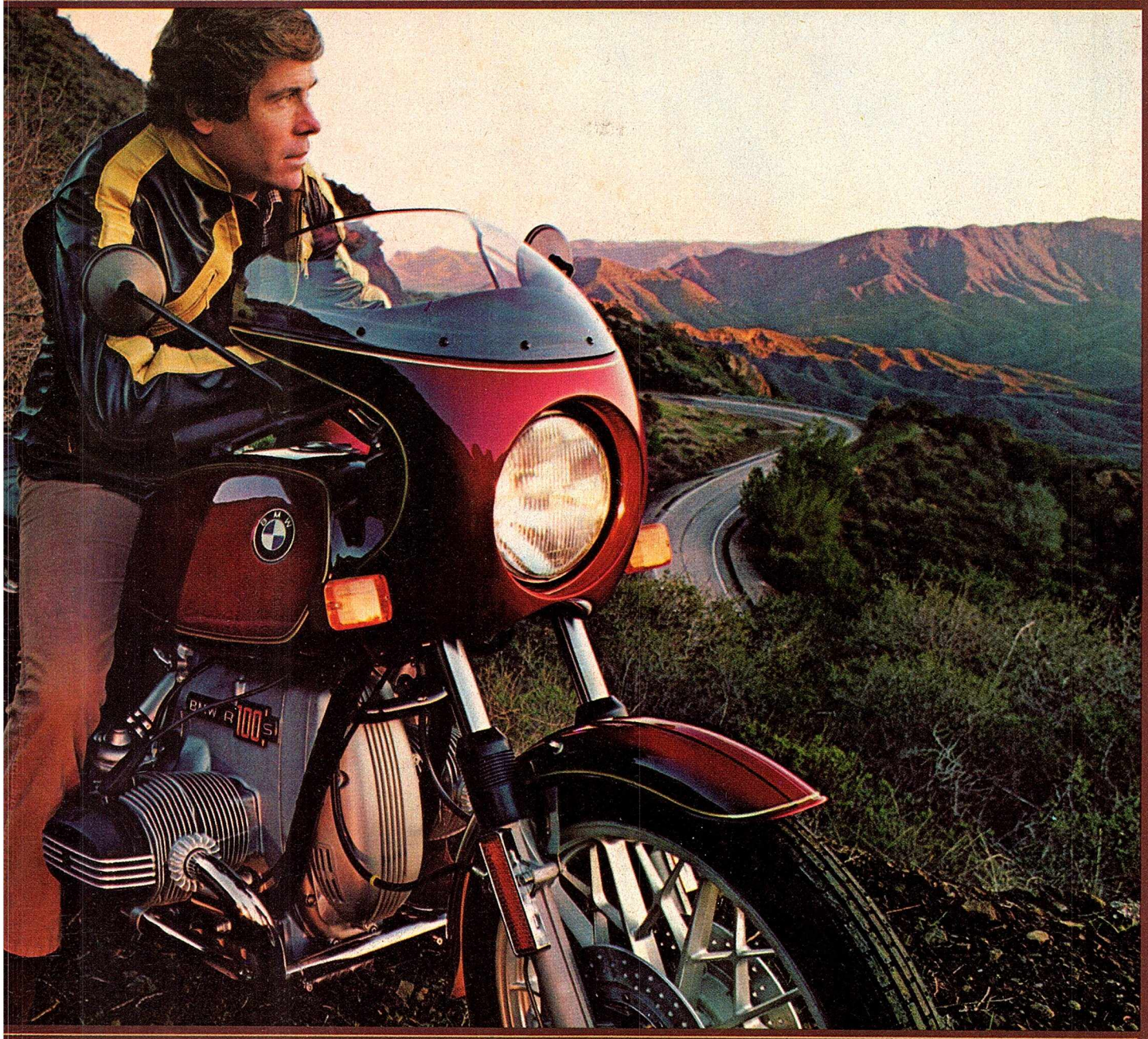
What it actually is, is a unique combination of lightness, low weight concentrations, soft, long-travel suspension, and low-end torque. And what it creates is exceptionally civilized performance.

Crank a BMW on at 45 mph. WVooomm! Not outrageous jolting power, but persistent, controllable, locomotive-like torque. That's BMW power. Lightness? There are probably more cast alloy parts in a BMW than any other 1000cc machine. Not surprisingly, BMW is also far and away the lightest 1000cc machine you can buy. The BMW suspension soaks up ripples, potholes, bumps. Yet the motorcycle always stays stable. So what seems like a soft suspension is better named a safe suspension.

But performance is also our limited warranty. We're so confident our machine will live up to everything you ask of it, we give you 12 months and unlimited mileage on our warranty. That's a full year of mountain roads and desert highways without a worry in the world.

So visit your local BMW dealer today. Listen to his words on balanced performance. Ask to see all the special new models he has to offer. And then tell us you don't have a real hankering to know what it's like to ride a BMW and "own the road."

**Bavarian Motor Works**

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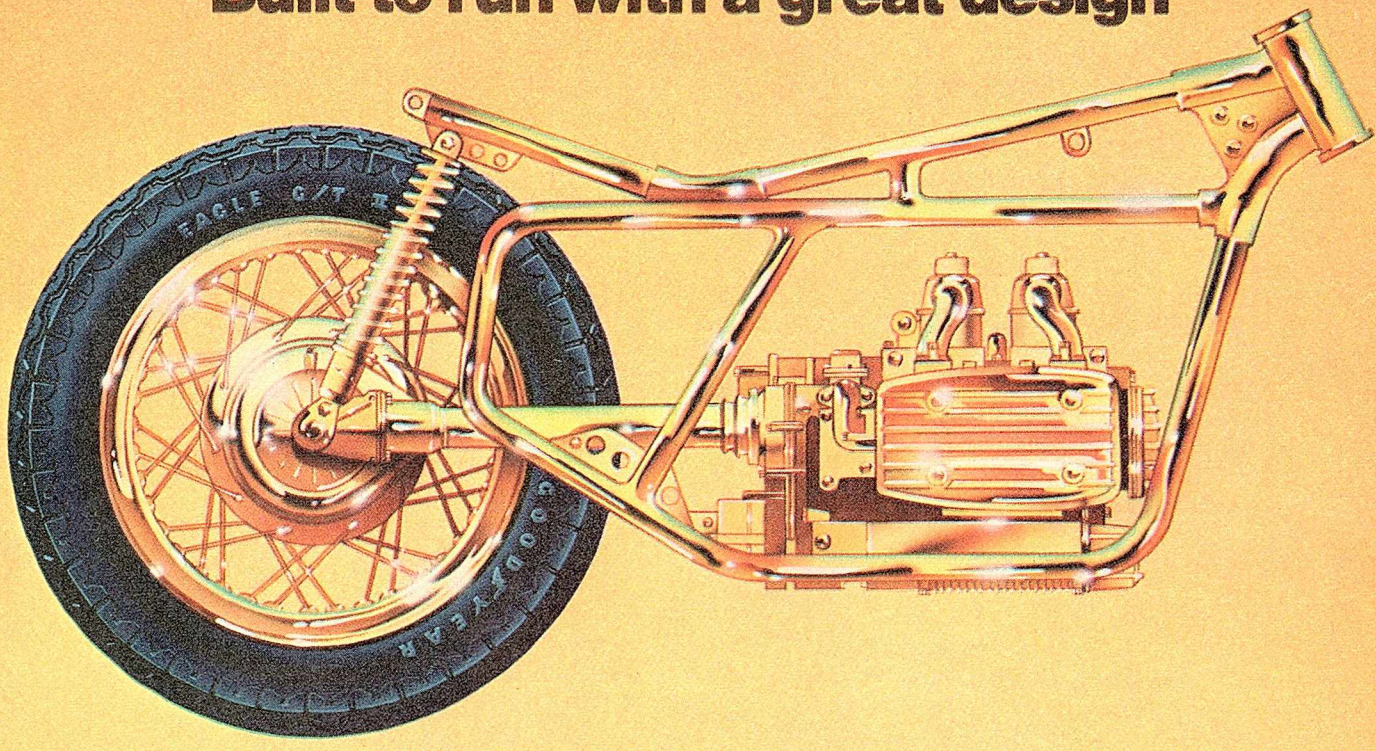
# EAGLE G/T II

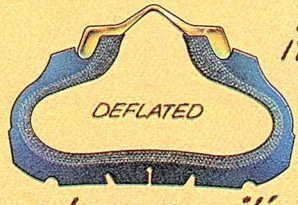
## Built to run with a great design



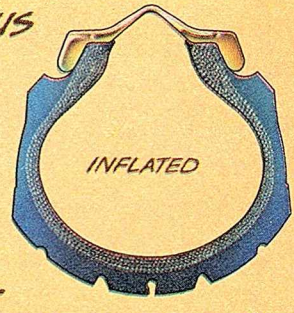

The power starts in the cylinders and moves fluidly through the gearbox to the rear wheel in a wide, precise band of power. This is a velvet-smooth giant of a motorcycle. This is touring design. But all this design innovation depends on the tire's footprint, a few square inches where the power is turned into motion. At Goodyear we know that. That's why we built the Eagle G/T II to run with this great design. Here's how it works.

**1.** We started with a carcass built with four rugged plies of Triple-Tempered nylon to run long, cool and strong.

**2.** The Eagle G/T II includes the new bead retention feature that helps "lock" the tire on the rim in case it suddenly loses air pressure. Think about that. Like so many tire engineering advances, it's from Goodyear.




**3.** The Eagle G/T II is built with a constant tread radius design for smooth, predictable cornering and requires no special rim.




**4.** The Eagle G/T II carries a Goodyear speed rating of "H" and is available in tube-type sizes for larger bikes. It's a Goodyear Eagle and every Eagle tire is painstakingly engineered to work with a specific type of machine. Ask your Goodyear dealer to match your machine with a set of Eagles. They're built to run with the great designs.

GOODYEAR

# Cycle®

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*This Month's Cover:* To stay competitive—and alive—in the American marketplace, Laverda bounced the Thousand's cylinder capacity up to 1115cc, did some restyling here and there and let 'er rip. To see how 'er can be expected to rip in the United States, turn to page 32. Cover photography by Dave Hawkins.


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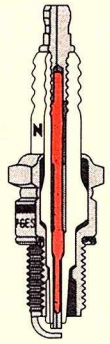
# Pour it on

Count on copper core NGK spark plugs to deliver tasty performance when things really get cooking.

Ordinary plugs have iron cores. But copper dissipates heat as much as five times faster than iron. At high speeds the copper works to prevent pre-ignition, detonation and burning.



The Copper Core gives you more.

Thanks to the copper core we're also able to fight fouling at low speeds by using a longer-nosed insulator than that found on other plugs. The final result is a plug with a wider heat range. And wider heat range means better performance at any speed, under any condition. And longer life.

NGKs. Probably the first plugs your bike ever had. And still the best.

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## What's new from Honda?

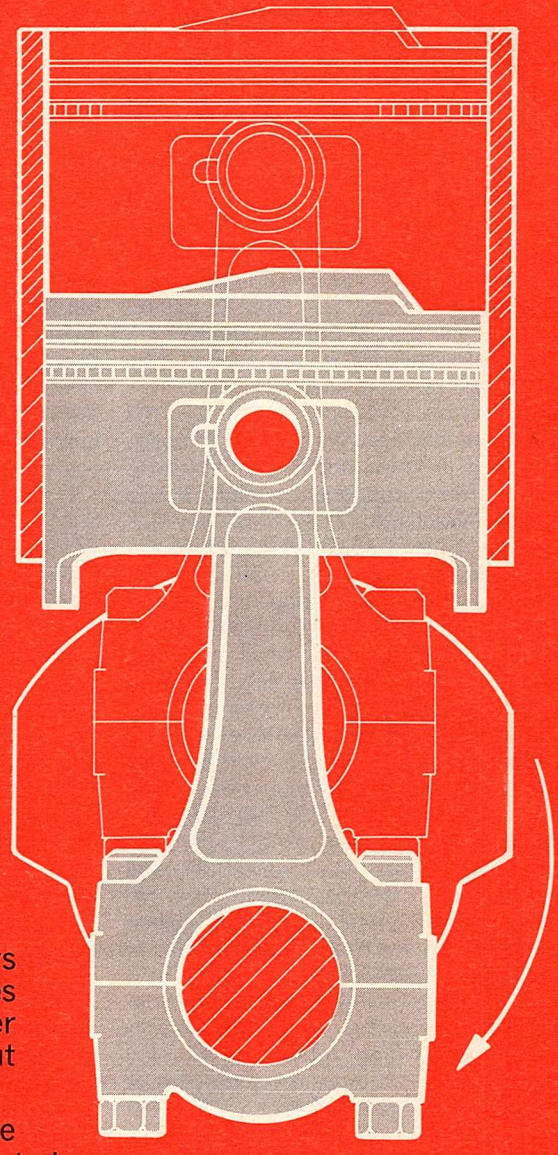
# Big-Bore, Short-Stroke: The RPM Factory.

Honda pioneered its big-bore, short-stroke engine technology in their World Championship road racers which dominated the early and mid-1960's. The high rpm potential of this engine combination was very successful, and the incredible wail of those winning GP machines is something that few enthusiasts will ever forget.

The big-bore, short-stroke technology found in the new First Into The Future Hondas has much the same effect on engine performance today as it did for those early road racers.

With a wide bore comes a wide combustion chamber and greater flexibility in designing valve layout. More than the conventional two valves per cylinder can be used. This increased intake area permits greater engine efficiency, higher rpm and more horsepower.

Normally, more horsepower means more heat. The big-bore, short-stroke engine has the answer for that. Because a short-stroke engine's pistons travel less distance per revolution, piston speed is reduced. With lowered piston speed, there's less than normal heat build-up from friction at any given rpm, less piston wear and reduced piston fatigue from heat.



The short-stroke engine uses shorter connecting rods so it can be made lighter and more compact for positioning closer to the machine's center of gravity. The benefits here are a machine with lighter feel, one that's more responsive to rider input, and one that has increased cornering clearance without raising seat height.

The big-bore, short-stroke Honda engine: It revs higher, allows for multiple-valve head design, produces more power, is more compact for lighter feel and better handling, and increases cornering clearance without the need for increased seat height.

If this sounds like the engine of the future, you're probably right. Except that your Honda dealer has it today.

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**HONDA**
***GOING STRONG!***

# Editorial

## Once Again, Into the Trenches

● I HAVE BEFORE ME A DESK FULL OF PAPERwork from the Environmental Protection Agency. The paperwork is concerned with proposed Federal motorcycle noise standards, which will take effect on the 1980 models and become increasingly severe through 1985, at which point the standards will stabilize. Maximum legal noise level from 1980 through 1981 has been set at 83 dB(A); it tightens to 80 dB(A) from 1982 through 1984; and reaches 78 dB(A) on the first of January, 1985. This schedule concerns street motorcycles; off-road bikes of 170cc or less follow the same schedule, and off-road bikes larger than 170cc will shoot for 86 decibels by 1980 and 82 dB(A) by 1983.

All of this, I suppose, makes some kind of sense. One of the tomes pressing my desk against the indoor/outdoor carpeting carries the title, "Noise Emissions Standards for Transportation Vehicles: Proposed Motorcycle Noise Emission Regulations, Background Document." It is approximately 350 pages in length (the pages are not conventionally numbered, and I refuse to count), and it tells the careful reader everything he could possibly want to know about what the EPA either knows, suspects or thinks it can project about the influence of motorcycles on ambient noise levels. For example, did you know that: "Based on the average detectability range of one-quarter mile, the average (off-road) motorcycle is heard within a path one-half mile wide, so the 3.3 million effective miles (covered per day by all off-road motorcycle riders) form an area of 1.65 million miles which is exposed daily to noise above detectability levels?" Or that accelerating motorcycles cause an estimated 1,838,000 sleep disruptions per night, assuming 12 per cent of all motorcycles have modified exhaust systems? Or that accelerating motorcycles wake up more than a half million peaceful sleepers every night? Or that . . . but I digress. Suffice it to say that the EPA documents on my desk, while occasionally self-contradictory, numb one into accepting the salient facts: motorcycles make noise. The more noise they make the less people like it, them or us. The EPA has been given a charter to produce a motorcycle noise abatement program which will reduce the number of individual noise impact events. The fewer individual noise impact events there are, the better.

One of the important contradictions in this document concerns the number of motorcycles running around with modified exhaust systems. Projecting from data indicating that 12 per cent of street bikes have hotted-up exhaust systems produces one envelope of conclusions; projecting from data suggesting the total is closer to 40 per cent (as it is, for example, in California, where excessively loud aftermarket exhausts have been illegal for some time) produces different conclusions which bear on the necessity of controlling already-quiet stock motorcycles in the first place.

But it doesn't really matter, the document points out, because if motorcycles stay where they are now, they'll be the loudest things on the road in a few years, the EPA already having controlled other sources—like trucks. Besides, they have a little something in store for fanciers and manufacturers of modified exhaust systems: "1)A new replacement exhaust that is designed for a regulated motorcycle model can not make that motorcycle louder than its standard allows; and 2) Each new motorcycle will be labeled with its sound level as measured according to a standard test. A police officer could run this same test on a noisy bike to obtain evidence of a tampering violation."

So I suspect we may as well start getting used to cops with decibel meters (ironically, many police bikes around here make as much noise as loud civilian motorcycles, and for the same reason: they're equipped with modified exhausts) and accustomed to the fact that motorcycles are doomed to become more expensive, more elaborate, less efficient and, for a great number of motorcyclists, less appealing.

But that's not where it ends, more's the pity. Laced through these documents like an ominous black thread is the EPA's own suspicion that the new legislation might put an end to non-Japanese motorcycling in this country. Some extracts: "Harley-Davidson is one of a group of manufacturers that, because of their smaller sales base, may have trouble meeting the standards within the time period proposed. . . . It should be noted that H-D, like BMW and Moto Guzzi, has a traditional, unique engine design that depends on two large cylinders. Although these firms are expected to be able to comply with the regulation, it is not clear whether they can retain their current engine design concepts."

And this: "Harley-Davidson, Can-Am and the European manufacturers would all be severely tested to meet the same time schedule as the major Japanese manufacturers, for a variety of reasons. . . ."

And this: "The normal lead times were based on a rapid but orderly redesign schedule for a major manufacturer. Smaller manufacturers are expected to need accelerated programs to meet these schedules."

Now consider this: the major Japanese manufacturers control approximately 90 per cent of the American market, and do about $1.5 *billion* in sales here each year. Clearly, American motorcycling is becoming increasingly Japanese motorcycling, as the major manufacturers continue to expand and refine their product lines. Non-Japanese motorcycles now amount, in the greater scheme of things, to nothing more than a pinch of seasoning across the top of the great Japanese stew, adding character, depth and charm to the American motorcycle experience. Why, in pursuit of noise levels below 83 dB(A), should the EPA be permitted offhandedly to do away with Ducati, Laverda, Bultaco, Husqvarna, Triumph, Moto Guzzi, Benelli, Can-Am and any number of others? Using the EPA's own spray of figures and projections, it's clear that the products of the non-major manufacturers contribute insignificantly to this country's overall noise level—just as the automobiles of Ferrari, Maserati, Lamborghini and Morgan would have contributed insignificantly to this country's smog problem. The EPA must have known that too, but the cars were made illegal to sell here just the same. That kind of knee-jerk, regimental and haughty thinking has typified the EPA's every contact with the public and manufacturing sectors, and it's about to happen again with motorcycles.

Look. Eighty-three decibels is a reasonable noise limitation figure. The major Japanese manufacturers have the technology, born of money, to press down to 78 decibels; Triumph does not, nor does Ducati, nor Laverda, nor Benelli. The EPA must be convinced to apply the new laws selectively. If they can have two scales for off-road motorcycles depending on engine displacement, why can they not have two (or more) scales depending on sales? Wading through the EPA's mountain of statistical evidence and numerical projections makes it clear that reducing the total amount of motorcycle-related noise pollution is what they're after. The non-major manufacturers could be permitted 83 dB(A) across the board with no noticeable

*(Continued on page 105)*

# Thank you, Bettencourt/Sullivan,

for winning the 500 KM AAMRR
Endurance Team Race on
Conti SuperTwins.

# Thank you, Warren Willings,

for winning the strenuous six hour
Castrol oil race in Australia on our
Conti SuperTwins.

# Thank you, Bernie le Blanc,

for coming out "100 yards behind
Freddie Spencer and 1 mile ahead of the
3rd" on Conti SuperTwins in the rainy
WERA National Championship Race.

# Thank you, Jeff Davis,

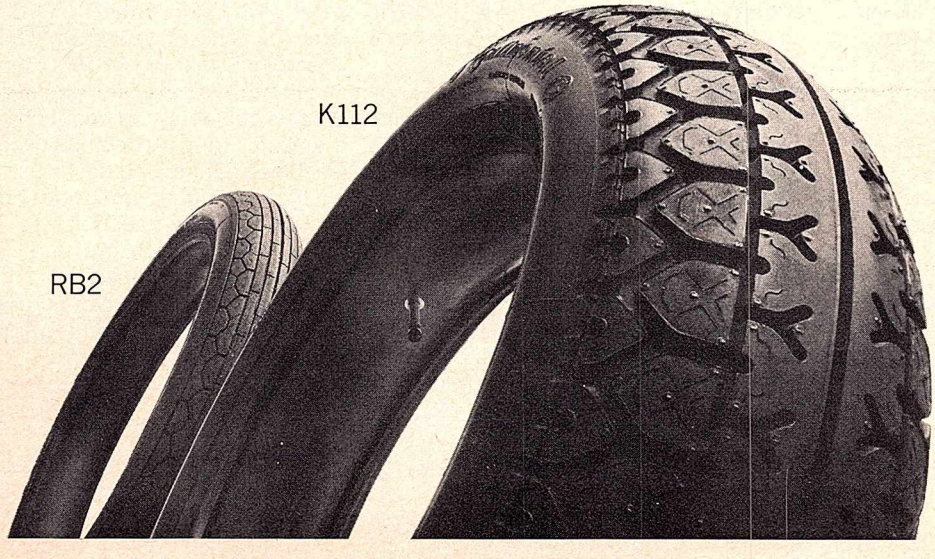
for winning the first national Race
for Life charity race in Minnesota on
Conti SuperTwins.

# Thank you, Hurley T. Wilvert,

one of America's leading racers
for doing your professional racing and
test riding on Conti SuperTwins.

# Thanks to you all,

who wrote to us about Conti SuperTwins:
how they "wear better,"
"stick like glue in the rain,"
"give an added dimension to riding enjoyment,"
"give unbelievable rear tire mileage,"
"neutralize California's infamous rain grooves"
and have
"fantastic adhesion even under heavy braking."
Thank you for making winners of us all.




GGK

Continental
Twinners are Winners.

# Letters

## CBX Backlash Backlash

Your magazine covers almost all types of cycling; road racing, motocross, enduro, touring, etc. I'm impressed! This broad spectrum is in stark contrast to the narrow-mindedness of a few of your readers. I am referring in particular to the critics of the XS Eleven and the CBX. My mood after reading their criticisms of these awesome creations vacillated twixt anger and dysphoria. Technological overkill? Excessive horsepower? "Monsterbikes?" Where is the ax that these folks so eagerly seek to grind? Yamaha and Honda have merely added new models to their lists of two-wheeled offerings. None of the smaller-displacement bikes have been discontinued to make room for big brother. The buyer may prefer less power, lighter weight, better fuel economy. Great! Get a moped. I say that with no derision of mopeds. They have their place. Several writers voiced concern over possible governmental crackdowns on motorcycling resulting from the new wave of big bikes. They oppose restrictions of their freedom. That's easily understood. Yet at the same time, these vocal few would themselves restrict a buyer's freedom of choice by crucifying the Eleven and CBX before they have been rolled onto the showroom floor. One writer voiced his concern that an inexperienced rider will "smear himself all over the landscape" by losing control of one of these high-powered mounts. My reply is that a jockey of that sort is more likely to lunch his cerebrum by taking a 40 mph tumble *sans* helmet.

My plea is for a little more open-mindedness on the part of the aforementioned minority. I have no desire to zip along at 135 mph on two wheels, to break the twelve second mark, or to have 600 pounds of machinery holding up my 'nads. BUT . . . I am amazed, mystified, and indeed awed by the engineering, technology, and ingenuity that these bikes manifest. Surely, the motorcycle marketplace was enriched by the addition of these bikes.

Dave Farrell
Milwaukee, Wisconsin

For all those readers who do not like the Honda CBX, I suggest they don't purchase one.

Lu McLeod
Ocala, Florida

I feel someone *must* respond to the letter from Mr. Giles Belleau in the April *Cycle,* in which he asked why "in 55 mph America do I need a street bike that has a maximum speed of 136.00 mph?"

Well, sir, 55 mph is *your* America. There are still a lot of lonely, straight roads in *my* America.

Michael Culver
Madison, Wisconsin

After reading "CBX Backlash" in your April '78 issue, I felt that I should make my opinion known about Honda's newest addition to their large line of motorcycles.

Mr. Belleau states, "Why should I buy an ugly, dangerous, six-cylinder street bike that will be costly to maintain while only getting a measly 35 miles to the gallon? Tell me why in 55-mph America I need a street bike that has a maximum speed of 136.00 mph in fifth gear and does the quarter-mile in eleven whatever. So what?"

So what? So maybe there are some motorcycle enthusiasts out here who want exactly that. I for one like the thrill of twisting down my own little race course (actually a little-used highway) and then blasting WFO down a two-mile stretch of nearly complete straightaway as I complete the loop and head back to town.

A costly-to-maintain six-cylinder? Well, if someone is going to lay out as much money as the CBX is going to cost just to have it, surely they would be willing to pay for its maintenance. Six-cylinders! Man, that's practically what sells the bike. Surely it can't be performance alone. The big Honda is only a few tenths of a second quicker than some of the other Superbikes marketed this year. The handling! Though good, the new Suzuki GS1000 beats it hands down (what with forks and shocks that can be converted from touring plush to roadracer hard in a matter of minutes). That brings us back to the cylinders. Six; now that turns heads. After all, you don't see it every day. Can you imagine what it would sound like with a good aftermarket exhaust system on it? You would be the hottest thing in town on Saturday night, cruising up and down the main strip, stopping in at all the popular hangouts. That's what the Honda's all about. Speed, handling, uniqueness, looks, and the satisfaction of knowing that at any time you can twist your wrist and leave any other stock machine in the world by the side of the road wondering what happened.

So, Mr. Belleau, you can keep your single-tingle and other things associated with small bikes. There are some of us out in motorcycle land who like the Mr. Macho image. Maybe we can't beat Kenny Roberts, but we can keep dreaming that maybe one day . . .

Kendal Powe
Slidell, Louisiana

In reference to the idiotic letter written by Mr. David G. Dicks which you published in your April issue, I would like to discuss the facts regarding Japanese multis.

I am currently the owner of a 1977 Gold Wing which has a completely stock engine and drivetrain. It is smooth, reliable, fast enough for me, and heavy at about 700 lbs curb weight. In the past 10,000 miles the bike has used 4 fluid ounces of oil, one rear tire, one headlamp, eight spark plugs, and two sets of points. It has cruised at 100 mph (6000 rpm) from Dallas to Corpus Christi (400 miles) without effort, out-accelerated, out-speeded, and out-handled *everything* it has ever had occasion to.

Although I must admit that I have never raced against the venerable Vincent Black Lightning, I seriously doubt that this antique is really a better bike than mine. To prove this point, I ask the following questions: Can a Vincent: 1) go 40,000 miles on a quart of oil? 2) run 3 quartz halogen headlights, 2 running lights, 1 taillight, and an AM/FM 8-track all at the same time? 3) keep from buzzing the rider as badly as the mirrors? 4) be electrically started? 5) stop in 141 feet from 60 mph? 6) really run 150 mph?

Hell, no! If it could, Vincents would still be in production. I don't intend to compare the Vincent to just my Gold Wing. The point is that the GS1000, the Eleven, and the CBX do everything better than my Wing except tour. Consequently they are a step forward for motorcycling. These machines offer sound bases for racers of all types, and damn good reason to change the AMA rulebook.

The old marques are dead because progress reared its ugly head. The past is the past because martyrdom and motorcycling are no longer synonymous. Wise up and enjoy.

Andre Espaillat
Irving, Texas

You are to be congratulated on the extensive report of the Honda CBX in the February issue.

However (and this is where my letter

*(Continued on page 12)*

# OIL COOLER VS. THE COOLER OIL

The new road machines released by the factories in the last few years have been powered by sophisticated, multi-cylinder, multi-valve engines. In line, double overhead cam, super high performance engines that were only seen on road courses are now commonplace on the streets. These modern power plants have a lot more moving parts than their predecessors. More moving parts mean more areas of friction and heat build up. Multi-cylinder engines develop internal heat problems, especially in the middle cylinders where air cooling is not as effective as in the outer cylinders. Excessive operating temperatures can overheat engine oil, causing oxidation and power-robbing varnish build up, or worse, oil breakdown which causes wear and breakage of internal parts.

Because of these oil overheating problems, the oil cooler has become a popular accessory for reducing engine oil temperature. In fact, on several of the new super bike models, an oil cooler comes as standard equipment right from the factory.

Bel-Ray has been working with leading motorcycle factories and racing teams to develop and perfect superior lubrication exclusively for 4-stroke motorcycle engines. Bel-Ray EXP answers the needs of today's hotter running engines. It is formulated with highly concentrated friction modifiers to greatly reduce heat build up caused by friction. EXP has ultra-high film strength characteristics, which provide a lubrication barrier to prevent abrasive wear from metal to metal contact. Bel-Ray EXP is a high detergent oil which maintains a clean and efficient running engine, and EXP delivers more power because its unique inhibitor system resists high temperature oxidation, prevents power robbing varnish build up and makes your engine last longer.

BEL-RAY EXP EXCEEDS ALL MOTORCYCLE MANUFACTURER'S REQUIREMENTS FOR AIR COOLED AND WATER COOLED 4-CYCLE ENGINES AND TRANSMISSIONS. Exceeds federal specifications MIL-L46152, API Services SB, SC, SD, SE, CA, CB and CC. Bel-Ray EXP is available in 20W50 for use where SAE 20, 30, 40, 50 or SAE 10W40, 20W40 or 20W50 is recommended. EXP 60W is specifically designed to meet the requirements of Harley-Davidson motorcycles. For all out competition engines, Bel-Ray 4-Cycle Racing Oil (MC-5) is recommended.

So if your bike doesn't have an oil cooler, you can effectively reduce friction and lower operating temperatures with Bel-Ray EXP Extra Premium 4-Stroke Motorcycle Oil. If your machine is equipped with an oil cooler, you will want the added performance and protection that Bel-Ray EXP delivers.

Ask your dealer for the ultimate in oil . . . Bel-Ray.

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CIRCLE NO. 72 ON READER SERVICE PAGE.

# SLEEPING BEAUTY

This compact, little beauty has everything you need for a night on the road. It's handlebar wide so it can go anywhere a motorcycle can. It carries 250 lbs. of gear, it's lockable, has a 6 x 6½ foot bed with a foam mattress, a table, and storage compartments. It even has screens.

Cycle-Kamp is as rugged as it is practical. Solid fiberglass construction on an 1/8" thick 2" angle-steel frame for maximum strength and boat trailer wheel bearings that will run silent and safe at highway speeds all day long.

The hitch, has been road tested for over 1,000,000 miles and is designed to pull axle height, the most stable point of the rear wheel and the torque resistant ball-coupling lets you take rolling turns at highway speeds. Your motorcycle can tip and the trailer stays level.

Cycle-Kamp Trailers, the one you can sleep in and two others made just for hauling, come in 10 great colors so–you can match your motorcycle.

The next time you're going out of town, take our sleeping beauty, and live like a prince.

**CYCLE-KAMP**

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Send 25¢ for engineering specs and product information.

**CIRCLE NO. 26 ON READER SERVICE PAGE.**




really begins), as far back as the fall of 1970 I went out the Willow Springs, with Tony Murphy and dear departed Bob Greene, both then on the editorial side of the much missed MSQ magazine. I was at that time working at our Long Beach operation—the Norton Villiers Corporation, also long gone, and sadly missed by some! The three of us, plus NVC Service Manager Brian Slark, had convened early one crisp morning for the MSQ boys to put our 750cc, $2000, 430 lb Production Racer through its paces. From memory they said the outright circuit record for two wheels stood at that time to Mike Hailwood at around 1:38. Well, Murph was no mean rider himself and you will appreciate we were pretty bucked to see that within half-an-hour he was down below 1:44. Remember, this was a street legal machine—in those balmy days circa 1969/1970!

Your own efforts astride the CBX resulted in a commendable 1:43, and from this side of the Atlantic I can but presume that track conditions remain as before. I don't feel the CBX is any less exciting because of what was achieved by our own small group, all that time ago. Nevertheless, I cannot resist commenting that "the 1970 Norton was something of a David against Honda's 1978 Goliath." A pity we ran out of elastic!

Mike Jackson
Southampton, Great Britain

**ENDORSE!**

Having just read your hilarious "Endorse! Endorse!" column, we file-snatchin' anarchists in Westerville couldn't resist adding to your scenario.

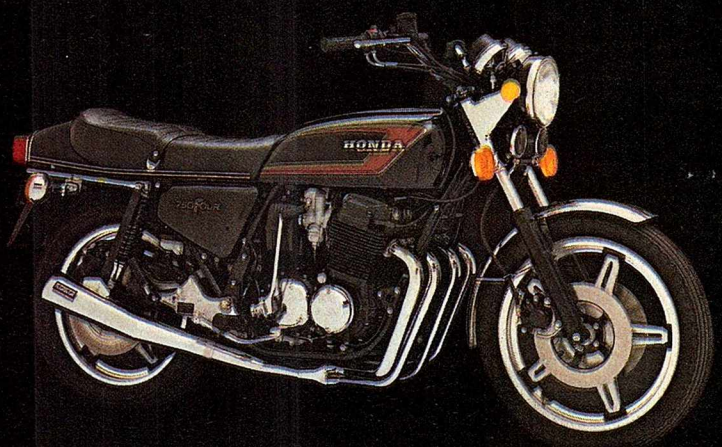
Following Mockett's aspirin endorsement, the AMA staff will finally get the attention of all those pipe-swingers, pork pies and funny cigarette smokers. "Hey, hold it!" we'll shout. "If you folks would just stop screaming and playing 'Thump on the AMA' for a minute, you might learn something."

For instance, despite all this bitching it remains a fact that the AMA sanctions more events and has more members than those four-wheeled USCARS all put together. Sure we've got problems, but the sport of motorcycling can take some small pride in having built for itself the largest sanctioning operation in the world.

The AMA is the only organization whose card shows up in the pockets of all the famous people you mentioned; Aldana, Mockett, Hull, Knievel, even Cook Neilson himself. (One clarification, Knievel quit after we had a little falling out a while back. Fortunately, he went peacefully and didn't take a bat to us.)

Most importantly, though, the AMA card is carried by a whole lot of damn fine dirt-squirters and pavement-pounders from Maine to Mexico who never make the headlines. A lot of us feel those folks

*(Continued on page 16)*



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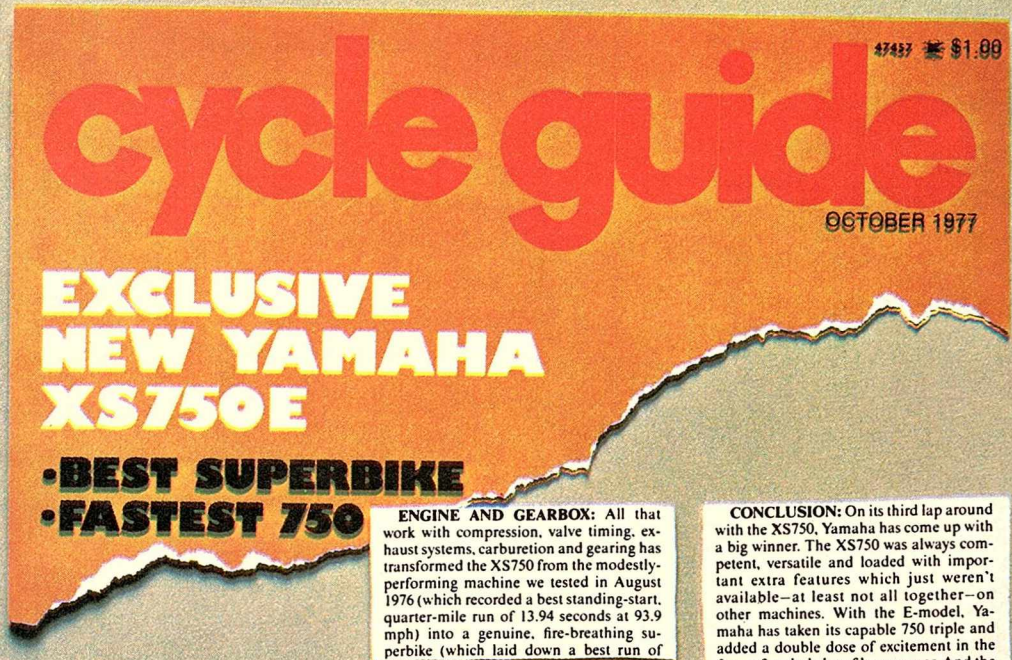
# AND NOW, A FEW WORDS ABOUT THE 1978 XS750.

## STREET TEST

It's not often that a particular model, going on its third year of production, can generate gobs of excitement around the *Motorcyclist* offices, but Yamaha's new XS750E did just that. Rumors of the E model being "the fast one" packed with more engine performance and a livelier spirit had our adrenalin flowing almost as much as when the triple was first introduced. And, if that wasn't enough, our first glimpse of this flaming red beauty really impressed us. No more pale maroon paint job, instead, a bright red coat stripped in gold, that stands out more vividly than a fire engine going full tilt with sirens blaring. With the jet black engine gleaming of muscle and the alloy mag wheels reeking "expensive," the 750E is quite a looker.

Oh yes, it's no spoof, you can tell it's got more steam stuffed inside that triple cylinder, double-overhead cammer without even riding it—just start the engine. The exhaust tone is crisper and throatier, even though the pipes are identical to last year's models, and when cracking the throttle open and closed you'll notice the tach needle jumps quicker, as if it can't wait to violate the raised redline which now starts at 9000 instead of 7500 rpm.

Has this sudden gift of power ruined its ability to tour comfortably and efficiently? No way! In fact, because of the changes it's actually able to pull more weight more easily. Low-end performance hasn't been affected any and it's still mildly mannered, being able to supply truck loads of torque smoothly and evenly.




**ENGINE AND GEARBOX:** All that work with compression, valve timing, exhaust systems, carburetion and gearing has transformed the XS750 from the modestly-performing machine we tested in August 1976 (which recorded a best standing-start, quarter-mile run of 13.94 seconds at 93.9 mph) into a genuine, fire-breathing superbike (which laid down a best run of 12.88 seconds at 102.4). The Yamaha is quicker than any current 750 and even quicker than most 1000cc machines.

This ferocious performance was obtained with no trace of the peakiness often associated with 12-second pavement-scorchers. You don't need to keep the XS750 wound up near its new 9000-rpm redline to appreciate the revamped engine.

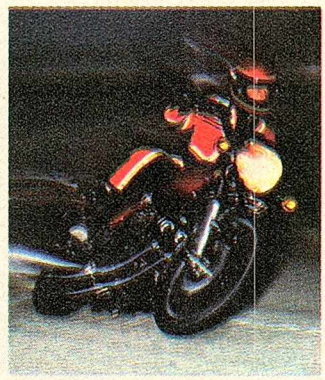
**CONCLUSION:** On its third lap around with the XS750, Yamaha has come up with a big winner. The XS750 was always competent, versatile and loaded with important extra features which just weren't available—at least not all together—on other machines. With the E-model, Yamaha has taken its capable 750 triple and added a double dose of excitement in the form of a whole lot of horsepower. And the company didn't sacrifice down-to-earth mid-range performance and fuel consumption but actually improved the bike in these areas. The XS750 is now both mild-mannered tourer and superbike.

For the time being we are prepared to state that for most riders the Yamaha XS750E is not only the best 750 you can buy, it is actually *the best* large displacement road bike. In three quick steps, Yamaha has come a long way.

And now, a few words of our own.

We're gratified, but not surprised, by the reaction of the motorcycle press to the new Yamaha XS750.

Beneath the dazzling new red lurks a sizzling new red line. 9000 RPMs of sizzle, to let you ride in a style to which you may be unaccustomed: faster than all get out.



To achieve that kind of performance, we did some interesting things to our double-overhead-cam, four-stroke triple this year.

We enlarged the air box and incorporated newly-designed "Type II" Mikuni carburetors for better air/fuel mixture and more efficient combustion. We pepped up the cam timing. And added Yamaha's exclusive Transistor Controlled Ignition, which regulates the firing of the plugs electronically. No mechanical breaker points.

But even with its increased power and response, the 750 engine is as smooth as they come. A quality no less apparent in our five-speed, constant mesh transmission and shaft drive.

No other shaft drive works quite like ours. A set of spiral bevel gears and a constant velocity u-joint produce a smooth, even power transfer. The entire system is enclosed, so maintenance is minimal. And there's none of the torque reaction that plagues other shaft-driven motorcycles.

Our new three-way-adjustable front forks add comfort and handling to a machine already noted for comfort and handling. And the slim styling of the bike itself makes leaning into turns a thrill rather than an adventure.

All told, the XS750 is one heck of a motorcycle. And those aren't just our words.

*Reserve lighting system. If one headlight filament fails the other lights automatically.*

*Unique hinged seat and fender for easy wheel removal.*

*Self-cancelling turn signals.*

*Front forks with three spring preload positions. All you need is a screwdriver.*

*Powerful dual disc brakes up front. One in the rear.*

*One-piece cast aluminum wheels for strength, stability and easy cleaning.*

**YAMAHA**

*When you know how they're built.*

CIRCLE NO. 58 ON READER SERVICE PAGE.

are what the AMA is all about.

Point is, the American Motorcyclist Association could develop real horsepower if everyone would stop grinding their own axes long enough to realize it . . . and to think about what an association is really for. You don't pay dues for the right to get one-up at the expense of your fellow members. You pitch a few bucks in a pot to try and make the sport better for everybody, whether their individual concern is pro rider insurance for those all-too-frequent fractures or "bureaucrat insurance" against growing street and dirt hassles from the government.

Maybe the detractors are right. Maybe pro racers, amateur racers, trail riders and road riders don't have anything in common. Maybe we really should dissolve into a bunch of fragmented special interest groups instead of one big national organization. Maybe . . . but the majority of our members don't seem to feel that way about it.

With all those folks described in your column jumping up and speaking out on behalf of all those products, we just wanted to remind all those individual bikers out there that somebody is still standing up and speaking out for them.

Richard Anderson
AMA Headquarters
Westerville, Ohio

### LIFE-SAVER

In April of last year, I moved lock, stock, and 1974 XL350 Honda to Hudson, Florida. My XL is set up mainly for dirt use, but in Florida, there is only sand or swamp, which isn't enough to stop one who gets kicks out of riding fast.

On an ordinary June day in Florida, I discovered a narrow but fast fire trail, with some whoops and a few small sand dunes. After some consecutive passes, increasing speed a little each time, my confidence overcame my reason and I let all hell break loose.

When the sand finally settled, I was spread-eagled in the bushes and totally convinced that death was near. Fighting to overcome panic, I recalled an article I had read in your magazine concerning the possibility of the sky meeting the ground, or after the crash. After taking several deep breaths, I wiggled my fingers and toes (as the article had instructed) making sure my back was still intact. When I sat up, there was a bubbling sensation everytime I took a breath, and the pain was terrific.

According to the article, this indicated that my lung was punctured and I would be in serious trouble if I were to faint. My cycle had come to rest a few feet in front of me, and I could see it was also injured. But from this point, it would have to take care of itself.

By moving slowly and maintaining my balance, I came to a house and got a free ride to the hospital, by gasping and collapsing. The doctors found four broken ribs, a punctured lung, and a severely bruised shoulder.

I might have gotten out even if I hadn't read your article—but because I did, I knew what had to be done, and I did not panic and have lived to ride again. My Honda is also healed and is running strong, but somewhat more cautiously.

I could go so far as to say thank you for a life-saving article, and for a great magazine.

Lewis F. Cass
Hudson, Florida

### POWER PIPES

On the assumption that your tests would establish the legality of the submitted systems, i.e. by carrying out section 1048 of the article 10 California vehicle code, we supplied our header system with the "optional" super muffler.

We have tested our new system with the "super" muffler under 1048 at the Motor Industries Research Association in England and it records the same dBa as the stock Kawasaki. Our Dunstall system is therefore completely street-legal.

Had we known that you were not going to carry out noise tests that relate to existing or proposed legislation (I don't blame you, as it's an awful lot of work to fit systems and test under 1048), we would have supplied our headers with the more popular "De-Luxe" muffler. With our "De-Luxe" muffler, we show a full 5 BHP advantage over the "Super" muffler and although there is a slight increase in dB(A) when tested under 1048, I doubt very much if it would have shown up at all in your dyno room noise tests.

D. E. Amette
Dunstall Products
Laguna Niguel, California

### BLUE RIDGE MAGIC

I blasted through the tunnel—into the light of day—and into "Blue Ridge Mountain Magic" (April '78).

Love the reading. After going from top to bottom of the column on page 135, I roared across the peaks of 136 and 137, switched over quickly to the right side and down 138. Then I disappeared. Reappeared coasting to the bottom of 158. Disappeared again. Briefly reappeared on the left side of 163 . . . disappeared. Popped out again, going down the left side of 166, raced over to 168, down, then up to 169, down, and over to 172 and finally glided to a stop at the bottom.

What a ride. I'm sore all over. If an editor ever received a third dimension from a make-up man, this was it . . . readin' was just like ridin'!

Granny
Los Angeles, California

Hooray for Bill Stermer and his article on touring the Blue Ridge Parkway! One point that can't be emphasized enough is that the 45 mph speed limit (35 on Skyline Drive) is just not that much of a hindrance. After all, the reason to take the road in the first place is to BE THERE, taking in the beauty of the area, not to set a speed record for going from Front Royal to Cherokee. In my experience, Bill also left out the single most enjoyable feature of the Parkway for the motorcyclist: it is closed to commercial traffic. That means over 500 miles of no Kenworths and Peterbilts blasting you off the road with their shock wave, or rubbing noses with your license plate. John Denver wrote his song about an area slightly further west, but for bikers, the Parkway is "almost heaven" indeed.

James W. Scott
Cincinnati, Ohio

It is with mixed emotions that I write about Bill Stermer's article "Blue Ridge Mountain Magic" in the April issue. On the one hand, it was delightful to see such a well-written piece about my favorite stretch of U.S. roadway. On the other, I have found over the years in telling people about it that relatively few of them had ever been on it and, not infrequently, seemed incredulous about my ravings.

Well, now that Stermer has spilled the beans, I suppose no further harm can be done by my verifying that, if anything, Bill's kudos are an understatement. I have been on the Blue Ridge several times, with bike and without, and last spring, went to Nashville the long way, Skyline to Blue Ridge to Great Smokey Mountain National Parkway. The mount was a brand new BMW R100S. I had been on the Natchez Trace, Routes 97, 30, and 9N in New York, and the Mohawk Trail, but all I could think of while riding those magnificent mountain passages from Front Royal to Gatlinburg was, if there's a special heaven for bikers, it must be like this.

T. M. Sullivan
West Hartford, Connecticut

### HELE, SMART AND TRIUMPH

I've just received my April issue of *Cycle,* and I've just got to say thanks for the articles on Doug Hele, Paul Smart, and that fantastic Trident.

In two years of subscribing, this has to rate as my favorite issue.

I've ridden a 1974 Trident for three years now. I bought it in a fit of passion, knowing that at that time Triumph's future was on shakey ground. And after all our little ups and downs, I can only say I'd buy it again. I love the bike. And I hope to enjoy it for years to come; it's truly ageless!

My helmet's off to the men who designed, built and raced the Trident. They'll always be my heroes!

Nick Jordan
Gadsden, Alabama

*Address all correspondence to Cook Neilson, "LETTERS," CYCLE Magazine, 780-A Lakefield Rd, Westlake Village, CA 91361*

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# Why smoke if you don't enjoy it?

Enjoyment's the name of the game. So I smoke Salem. Full, rich flavor. Smooth, fresh menthol. Can't beat 'em. Enjoyment every time.

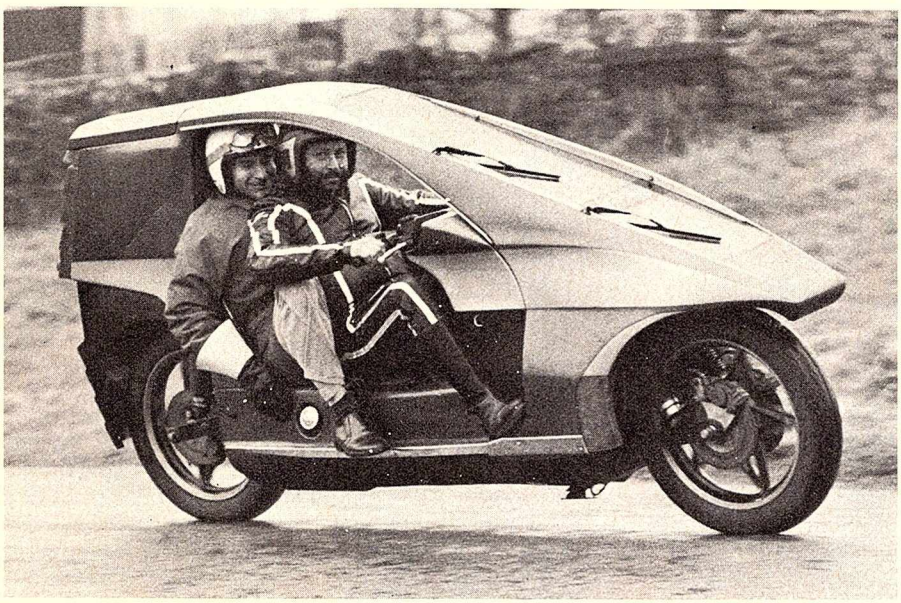
**Enjoy Salem Flavor.**

KING: 18 mg. "tar", 1.2 mg. nicotine, 100's: 18 mg. "tar", 1.3 mg. nicotine, av. per cigarette, FTC Report AUG. '77.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

# Pipeline

## Wassisit!



● THERE HAVE BEEN MOTORCYCLES THAT looked like corner-carvers but were wobble-champions, bikes that handled superbly but carried stone-age engines, high-horsepower rockets fitted with short-fused rear chains and tires, limp-wristed little models that had no appeal whatever, and other machines of such enormous complexity that nobody outside the design departments have been able to appreciate the hardware. And now there is the Quasar.

The Quasar is a long, low, heavy, expensive, two-wheeled vehicle; it's so strange in appearance that it defies the conventional motorcycle label. The Quasar invariably provokes extreme reactions from first-time beholders. Strangers stand transfixed. Experienced motorcyclists either scorn and dismiss it—or stand awestruck by the thing. Some see the Quasar as mere nonsense with no possible relevance to motorcycling. Others consider it the biggest scientific advance since the internal combustion engine was first attached to a bicycle frame.

Two English engineers are responsible for the Quasar's design, development, production and (they trust) universal acceptance. One partner is ebullient Malcolm Newell, who has a background in race-car engineering and an inclination for constructing strange automotive devices. The second engineer is studious Ken Leaman, who was a full-time aerodynamicist but is now trying to engineer an innovative product on the company's very slim resources and meagre manpower.

Newell and Leaman conceived the Quasar after spending years complaining about the bikes they owned. Why, they grumbled, did their Kawasaki-3 misbehave in corners, their Triumph twin vibrate, and their old BSA clatter? And why did their nice new 1000cc tourer need an assortment of fiberglass extras (fairing, panniers, top box, etc.) before they could actually tour in comfort? None of the computer-designed (but conventional) high-flyers met their personal desires, so they began transforming their ideas into the unconventional Quasar.

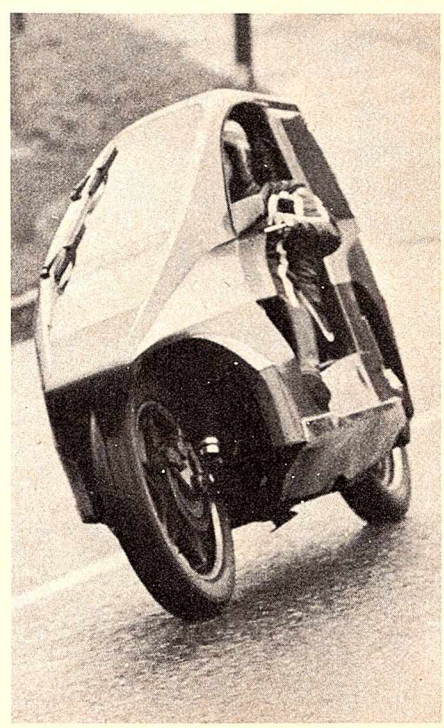
In Newell's words, "The Quasar is a total-concept motorcycle utilizing low technology and basic principles." In spite of its revolutionary appearance (and "revolutionary" is a word they studiously avoid), the Quasar is less exotic than it at first seems. It's low technology because existing and available components *must* be used instead of highly sophisticated pieces which *could* be designed but would push development costs way out of sight.

The Quasar should be driven by a compact, water-cooled 750cc four with cylinders running fore-and-aft, and power should be transmitted through a semi-automatic gearbox to shaft final drive. But nobody in the UK makes anything remotely like that, so the available alternative is a 41-horsepower 848cc Reliant car engine featuring four cylinders and the low technology associated with basic automobile-type engineering and construction.

In certain respects, the Reliant mill fits the Quasar ultimate-tourer bill extremely well. The thing is rugged with a life expectancy of 80,000 miles or more, and it churns out maximum torque at a modest 3500 rpm. Depending on overall gearing, 5000 rpm equals 100 mph, or 90 mph comes at 4500 rpm using the tallest final drive ratio, giving a 70/80 mph cruising speed without overstressing the parts. Not unexpectedly, the lazy-turning engine (fed by one 1.25-inch SU carburetor) provides the sort of fuel economy that ranges from 100 mpg at 50 mph to a realistic 70 mpg under normal conditions. With a four-gallon tank, gas stops come at 250-mile intervals. On the other hand, the engine is a massive lump that contributes mightily to the 690-pound curb weight.

Another unwelcome inheritance from the car quarter is the gearshift. Since the riding position is semi-reclining in a hammock-style seat and since the rider's feet rest on angled running boards, the only practical gearshift arrangement is by push-pedal. The Quasar has two spring-loaded pedals on the left, one above the other. Toe the top one and the box changes up; nudge the lower one and the transmission downshifts. Alas, the Reliant

*(Continued on page 158)*



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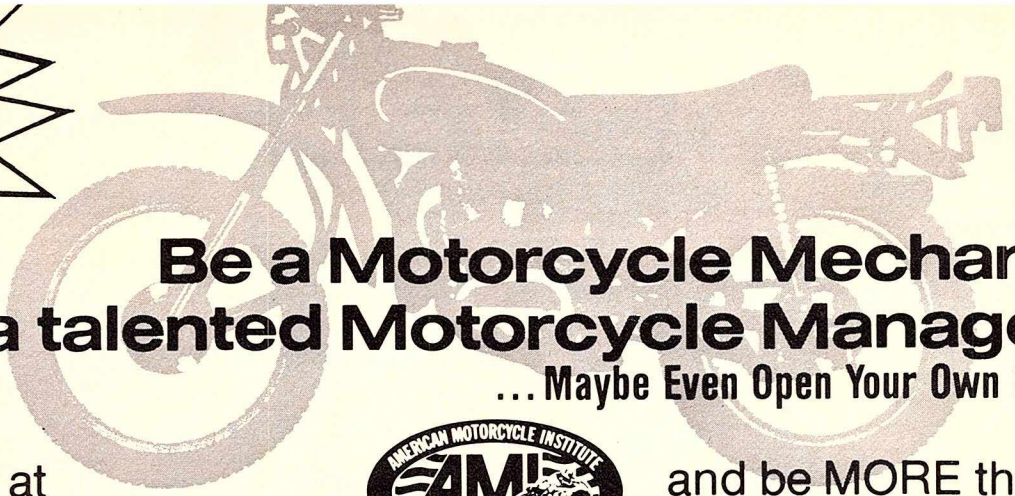

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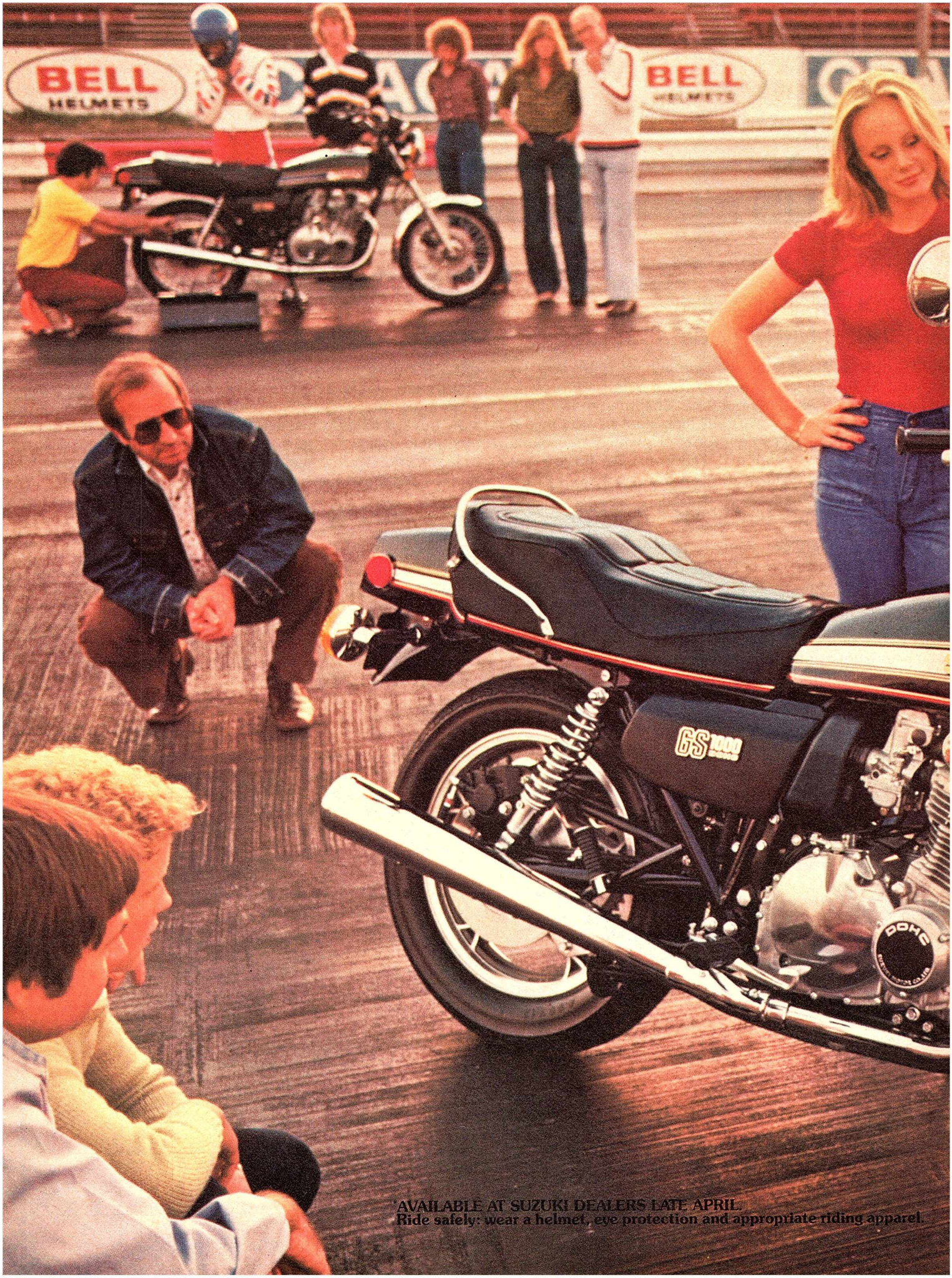



*AVAILABLE AT SUZUKI DEALERS LATE APRIL.
Ride safely: wear a helmet, eye protection and appropriate riding apparel.

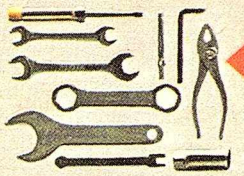
GS-1000E turns heads as well as fast quarters.
As you can plainly see, Suzuki's GS-1000E is anything but plain.
Heck, it's downright snazzy with its sporty black paint job, mag-type wheels, custom dual seat and racy high-performance tires.
Best part is, this beautiful machine is also beautifully engineered.
Take the suspension system for example. Swing arm is extra large and pivots on needle bearings. Rear shocks have five load settings and 4-way dampening adjustments. And up front, there are unique air forks.
(Now you know why the GS-1000E rides and handles sweeter than any bike in its class.)
Another thing of beauty is the Dual Overhead Cam 4-stroke engine. This baby is capable of pumping out 11-second quarters. And hitting speeds of over 135 mph.
That, friends, is hauling.
You'll be glad to know the GS-1000E hauls down in a hurry, too. Chalk that up to a double disc brake up front and a big disc in back.
Besides all that, there's all this: Electric starting, electric fuel gauge, self-cancelling turn signals, automatic cam chain tensioner and a combination steering/ignition lock.
No wonder the GS-1000E turns bikers on.
And the competition off.
SUZUKI
The Fast One.
CIRCLE NO. 23 ON READER SERVICE PAGE.

# THE YAMAHA IT'S: S
# FEATURES ARE DESIG

For a serious competition enduro rider like you, time is of the essence. A lost minute here, a few seconds there, can mean the difference between merely finishing and winning.

So every bike in the 1978 Yamaha IT line —175, 250 and 400—is equipped with quick-change features to save you time when you need it most.

Each wheel, for example, can be removed in just 30 seconds. And a flat tire repaired in as little as 90 seconds. (Cycle Magazine clocked a Yamaha ISDT rider at 89.4 seconds with a modified IT400.) The single-element foam air filter is so simple it can be changed with one hand. There's even a quick-release clutch cable.



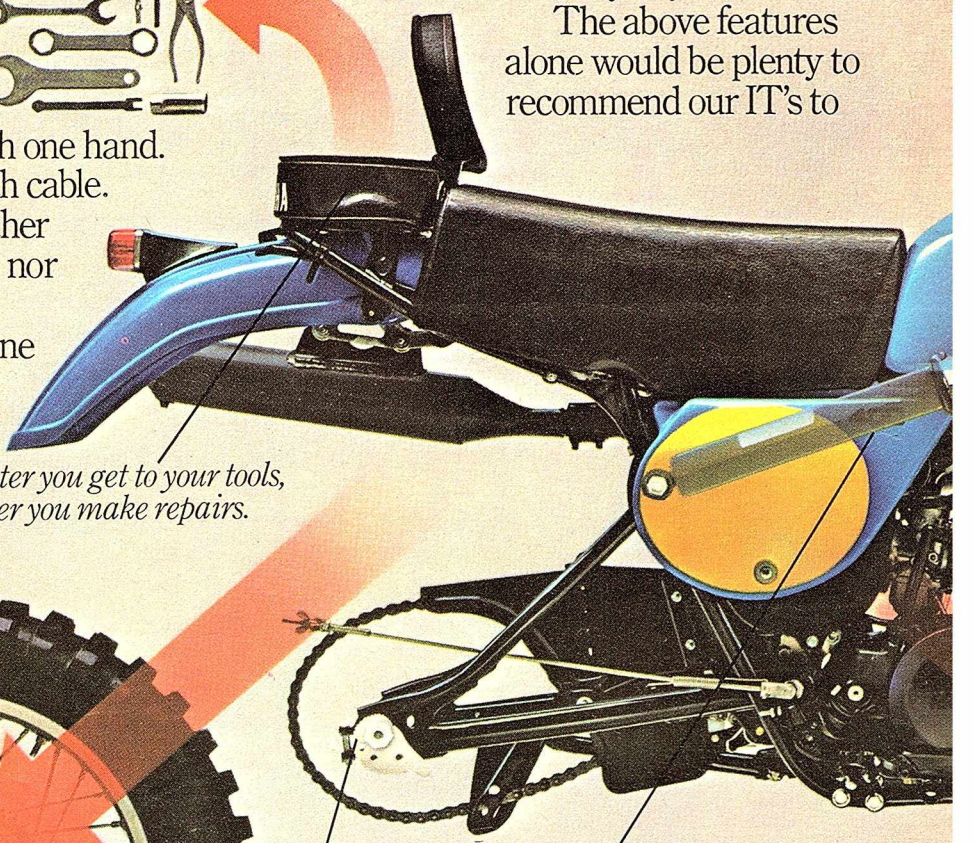
As for the rest of the bike, neither rain, nor sleet, nor rocks, nor ruts, nor rivers can faze it.

A tough, motocross-bred engine with reed valve Torque Induction gives you snappy low end response and smooth, dependable power across a wide rpm range.

Yamaha's exclusive Monoshock rear suspension, combined with long-travel, leading axle front forks, delivers extraordinary stability on any terrain, flat out or crawling.

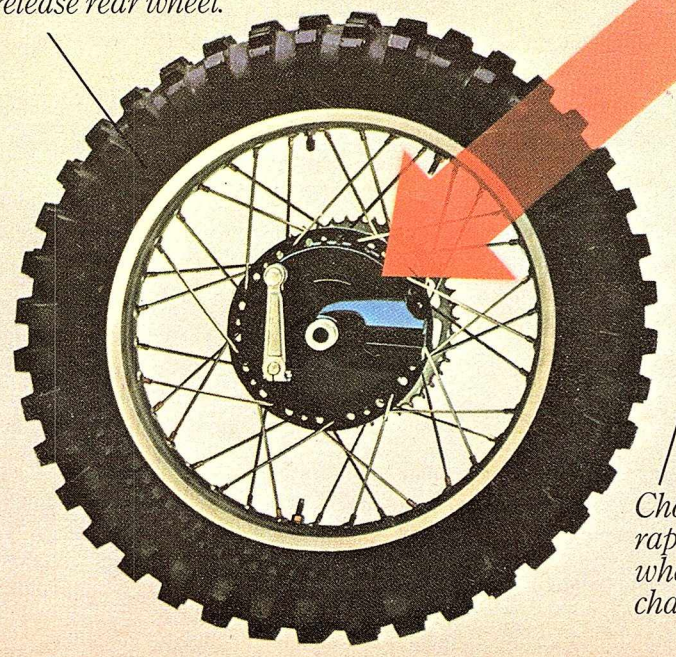
Monoshock also qualifies as a quick-change feature, because you can adjust the damping to 17 settings with just a screwdriver. Spring preload and nitrogen pressure are fully adjustable, too.

The above features alone would be plenty to recommend our IT's to



*The faster you get to your tools, the faster you make repairs.*

*Quick-release rear wheel.*



*Our exclusive nitrogen/oil monoshock can be adjusted to 17 damping settings with just a screwdriver. Spring preload, spring rate and nitrogen pressure are variable, too.*

*Chain adjusting cams, for rapid rear wheel alignment when adjusting chain or changing wheel.*

# OME OF THEIR BEST
# NED TO COME APART.

any competitive rider. But the list goes on: a new, improved chain tensioner and chain guard. Chain adjusting cams. Complete tool kit. Large capacity, light-weight polyethylene gas tank. Extra-wide, extra-strong aluminum engine guards and flexible, polypropylene fenders. Hinged brake and shift levers that fold back in tight spots instead of bending.

The only thing missing from these remarkable machines is the outlandishly high price you'd expect to pay for them.

And that, perhaps, is the best feature of the bunch.

*IT 175*

*IT 250*

**YAMAHA**

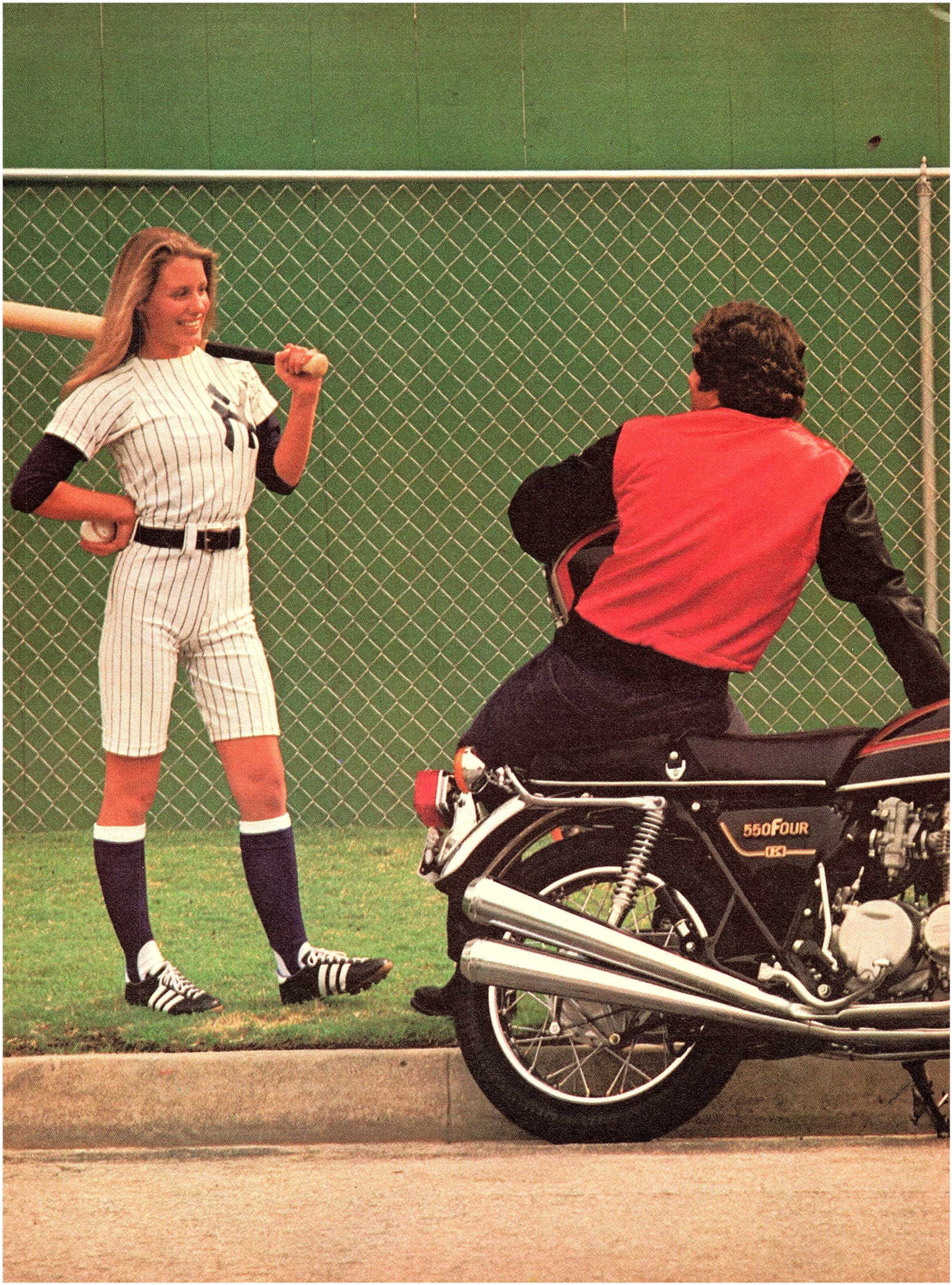
*When you know how they're built.*

CIRCLE NO. 42 ON READER SERVICE PAGE.

*Quick-release front wheel.*

*Quick-change, single-element foam air filter can be replaced with one hand.*

*IT 400*


550FOUR

# FIRST INTO THE FUTURE.

## 1978 Honda CB-550K: Four into four equals one of a kind.

Now some things about the Honda 550 Four knock you out at first glance. Those four beautiful up-swept pipes, for example. They're the only four pipes you can get in the 550 class. And the good looks don't just stop there. The shining chrome, deep rich paint, distinctive pinstriping and streamlined design turn heads at every stoplight.

Just take a close look at that 544cc four-stroke, four-cylinder, OHC engine. Not only does it carry Honda's legendary reputation for reliability, but it's a road burner!

Four synchronized Keihin carbs feed the beast. A 9,250 rpm redline gives you a good idea of its tears-in-your-eyes output.

The 550's one-of-a-kind performance, however, can only be experienced when you climb aboard. First wick of the throttle and you'll feel the kick. Then when you reach a curvy back road the kicks come from the handling. Free-valve forks, two-stage damping shocks glide you through the dips and turns. The efficient five-speed trans makes the shifting as smooth as the ride.

Let your Honda dealer show you more about the '78 CB-550K. When it's not moving, it attracts the right kind of attention. In motion, it sets you far ahead of the crowd.

*Always wear a helmet and eye protection, keep lights on and check local laws before riding. For free brochure, write: American Honda Motor Co., Inc., Dept. C68 CB, Box 50, Gardena, Calif. 90247. See Yellow Pages for nearest dealer.* *© 1978 AHM.*

**HONDA**

***GOING STRONG!***

CIRCLE NO. 27 ON READER SERVICE PAGE.

# The Duct Tapes

## Falls I Have Took And Observed

● ALL OF US KNOW CRASH-AND-BURN ARTists who revel in telling stories of turning wide, going through the side of a barn, then getting kicked back out the same hole by a panicked Clydesdale. Understand now, I'm not lumping these guys into the same category as the wobble-eyed masochists who wear out four crutch tips with each tank of gas, or the guys who say, "Man, I had a great ride, I broke my leg!" These closet-penitents are becoming rare since riders stopped contributing to collections for people who are driving cars seven years newer and two cylinders bigger than the tin cans they were driving. A nice, peg-bending, two-stitch crash can take the sting out of posting a score forty points out of Overall; no one has to know you did it in the free territory after the last check. I suppose I've seen a thousand crashes and they all have one thing in common: the rider will always take the time to give the offending machine a swift kick in the rear tire. This is a childish thing to do and, if your boot skids up under the rear fender edge, hurts like hell.

Once I saw a rider take a crash as a personal challenge to be overcome at all costs; his vendetta with the thing was marvelous to behold. It was at a spectator point at the Delaware State Enduro, an Enduro which is to mud what water skiing is to water. I was embedded in what I believed was an open grave, the Bultaco pointing straight up and everything from the middle of the seat aft under the mud. I was rooting in my pockets for a fresh malted milk ball and looking for a familiar face in the crowd attached, hopefully, to 195 pounds of meat, when a rider came down the mud slot yelling, "Go, go, go!" as if he had a dog team out front. I wasn't doing anything except waiting for my strength to gather, so I watched him. The guy was a familiar rider who always had a small box of breakfast cereal glued to the back of his helmet. I don't know why he did that. I certainly never asked. Probably for the same reason I had BULTACO written upside down on my gas tank; it's one of those things you do without thinking, like getting married.

How he managed to ride through miles of low-slung second-growth underbrush without tearing it off was a mystery. Maybe he wore it so his friends could spot him a quarter-mile away or maybe he actually ate the stuff or maybe it was a good luck charm or maybe he was sponsored by Kellogg. At any rate he came sloshing, bucking, plowing past me, hammered into a log or something under the muck, jumping his front wheel two ruts over while the back preferred the rut it was in. He continued on for some distance, one elbow and a knee on the motorcycle and the rest of him dragging alongside, until the whole issue disappeared in a lovely sheet of flung mud which blackfaced a half-dozen spectators on the left side of the trail.

I was flipping my bike over sideways toward high ground with the aid of some klutz who was afraid to get mud on his hands and was as helpful as a hernia. I know it's illegal to accept aid from non-contestants, but I always go on the assumption that he could very well be a competitor who broke down, took a fast shower and shave at the mobile home his wife had driven to the spectator point, then came back to watch. It COULD happen, you know. Both of us looked up when we heard someone riding by yelling, "Go, go!" It was the Kellogg Kid again, and this time he was really wound-out and attacking the mud with lots of help from the great god Momentum. He was over his head and it ended in a mirror-image of the first crash; he slid off the other side of the motorcycle and he sprayed the spectators on the opposite side of the trail. He got up, kicked the motorcycle, and you could almost hear him say, "Well, back to the old drawing board."

I had gotten my bike running but it didn't have enough guts to pull a heavy shadow, meaning there was a large lump of mud on the air-filter screen cutting off her wind. I was pulling the seat off when Kellogg came by for the third time. He was showing a lot of class. He was up on the pegs with enough Body English to wear out the inside of his knees, and he had the throttle cable alongside his ring finger locking the loud handle at two rpm below wheelspin. He received, and I had never seen this happen before, quite a bit of applause from the spectators; not what you'd call a standing ovation, but certainly a standing smattering. Once clear, he turned part-way and gave a clenched-fist salute to the crowd, the outline of the box on his helmet identifying a man who was clearly indomitable.

The first time I fell off a motorcycle was three days before I ever rode one. I was making my third visit to Cliff Ferris's Triumph garage and reading an early issue of *Cycle Sport,* which was convincing me that this woods-riding looked to be a real kick. I had a bit of money as I'd just discovered the GREAT TRUTH: the two happiest days in a man's life are the day he buys a boat, and the day he SELLS the boat; the latter, I believe, being the more enjoyable, lifting a millstone from around your neck and a suction pump from your pocketbook. I had parked one cheek on a Bunnyville and was easing more weight aboard when the damn thing toppled over and dominoed the entire Triumph line, one after the other, banging and scratching until all of them rested on a poor little 200cc Cub at the bottom of the "USED NOT ABUSED" row.

Cliff came boiling around the counter. I sat there on the floor at the head of the wreckage and said, "The customer can do no wrong, Cliff, and I'm a customer."

"Which one will you buy?" he asked.

"I'm buying this here copy of *Cycle Sport,"* I said.

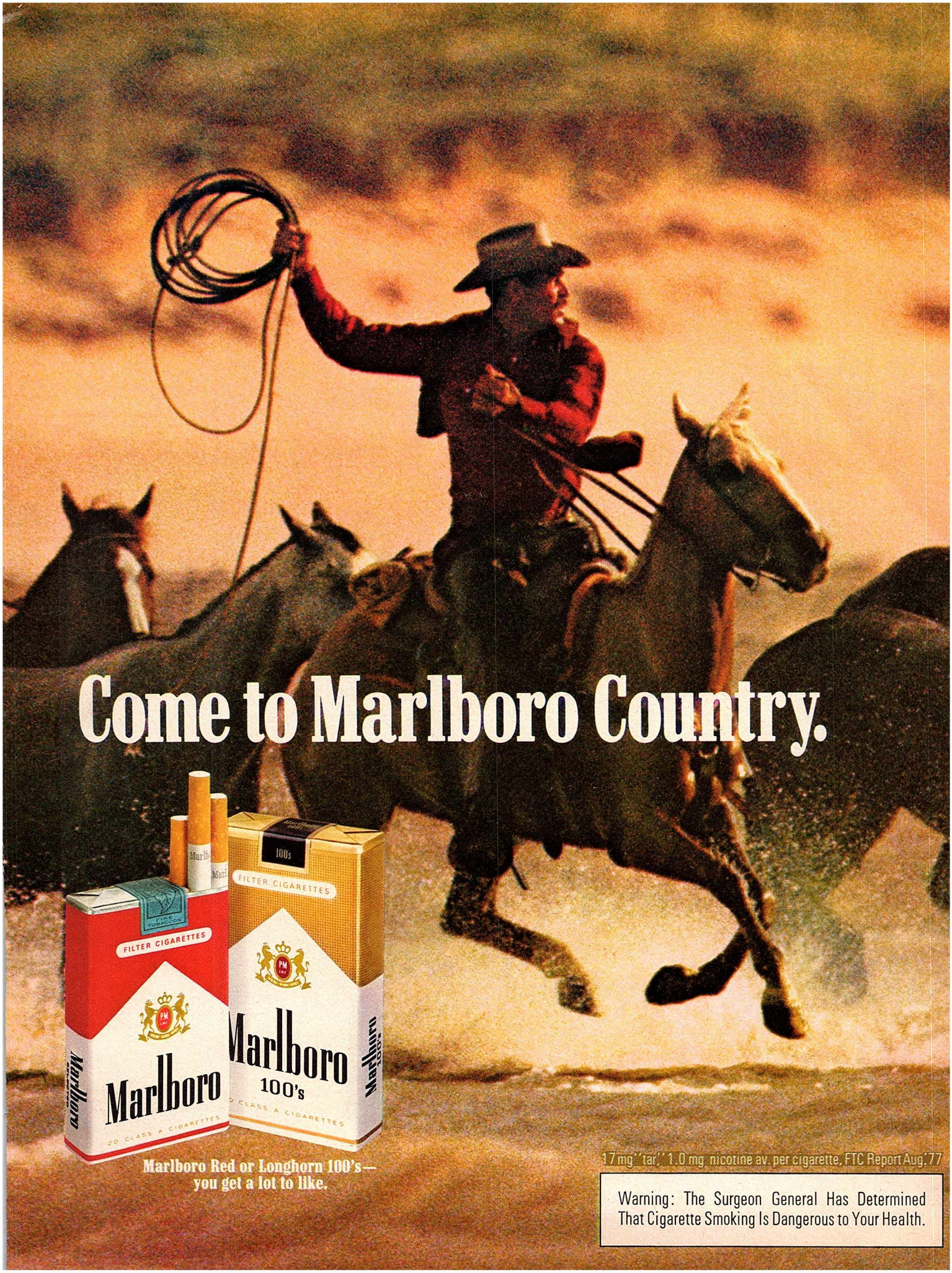
Cliff grabbed me by the throat and sold me the Cub, and if this was a sample of his soft-sell technique, I'd hate to be exposed to his hard-sell method. I think Cliff was the first dealer who would make you an offer you couldn't refuse.

Last week I had a crash that threw me so far it took me twenty minutes to walk back to the motorcycle. BS, you say, and I don't blame you.

Ken Lather had been pestering me so much to go riding (so he could try out his new, used XL250) that I couldn't stand it any longer, and the long winter layoff had got me ready for some low flying anyhow. It was a nose-numbing twelve degrees when we unloaded the bikes and my glove had stuck to the van door handle, making me glad I hadn't touched it with my bare skin. Kenny was wearing everything he owned, including a double-breasted blue pinstripe suit his father had worn when Ken graduated from high school, and would have been wearing the van's seat covers if I hadn't stopped him. I was wearing my usual gear supplemented by a shiny yellow rainsuit worn with the hood up under my helmet; I felt like a French tickler. The outfit was cold on fast open trails; growling along a twisting fire cut filled with blow-downs would puddle sweat under your socks, so I figured that, on the average, I was comfortable.

We were hammering along half expecting to meet a polar bear around the next bend but usually meeting low spots held down by a twenty-foot circle of ice. These can be a thrill and a half, depending on

*(Continued on page 105)*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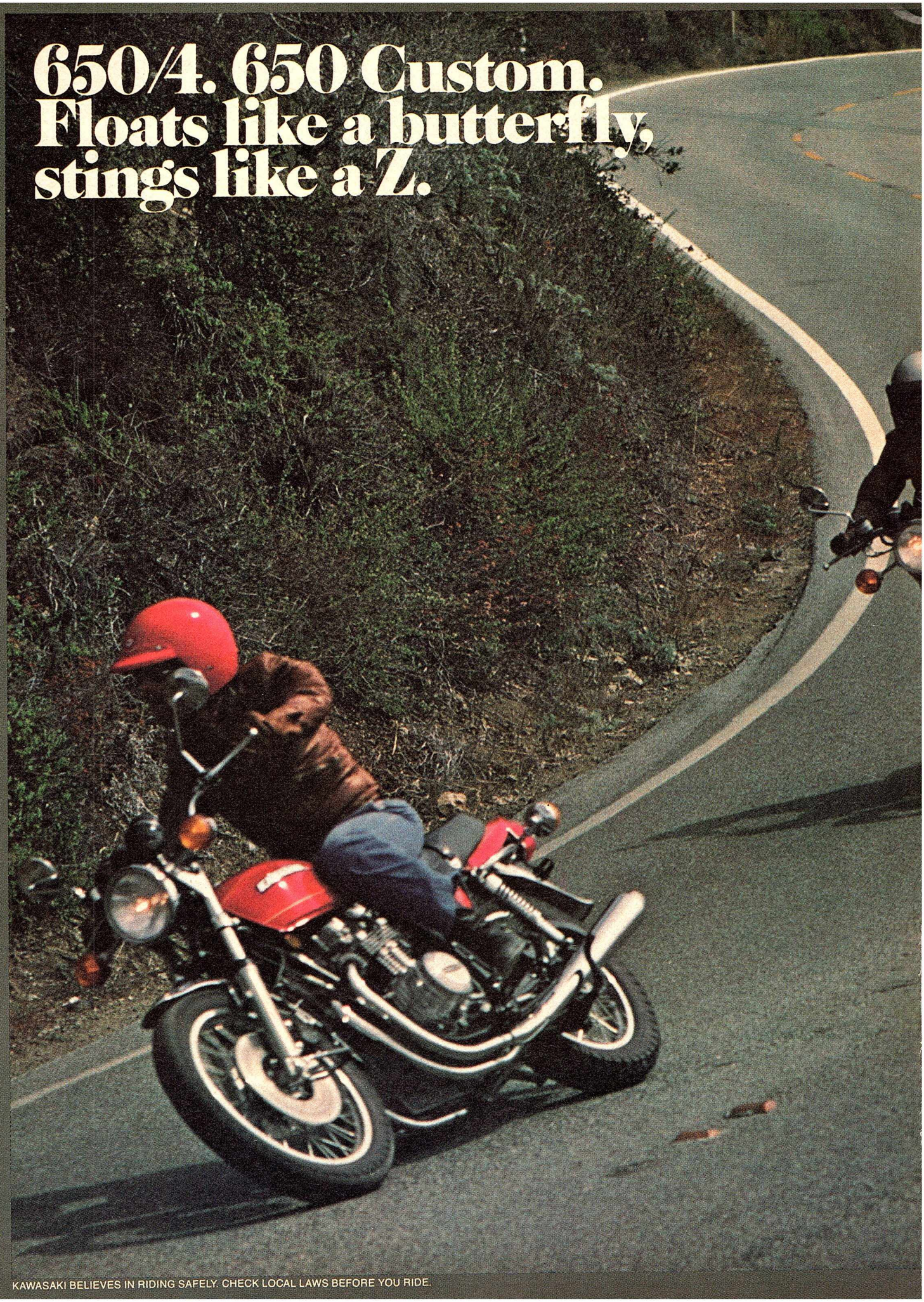
Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.


650/4. 650 Custom.
Floats like a butterfly,
stings like a Z.
KAWASAKI BELIEVES IN RIDING SAFELY. CHECK LOCAL LAWS BEFORE YOU RIDE.

To quote another notable, Cycle World said of the 650/4: "no other bike in the middleweight class comes close."

They also said: "By the end of its first year, the KZ650 looks to be the most popular new model ever."

And with that they named us the Middleweight Roadster of the Year.

Think about why Cycle World said those nice things about us. Think about a road that jumps around like an advanced case of the hiccups. Switchbacks banked all wrong. A road that happens faster than a hopped-up pinball machine. To find the line on this road you need a motorcycle that reacts as fast as you think. A 650/4 or a Custom.

The Kawasaki 650s weigh only a few pounds more than most 550s. Yet their power-to-weight ratio puts their performance up there with most 750s.

Plainly put, the 650/4 is for chasing the white line with 750 performance. At a better price.

The 650 Custom is for highrolling. Cast and machined alloy wheels. Three disc brakes. Custom paint and pinstriping.

The 650/4 and the Custom are the ultimate sport motorcycles. And you can quote that.

# Kawasaki

**We know why you ride.**

CIRCLE NO. 59 ON READER SERVICE PAGE.

CYCLE ROAD TEST

# LAVERDA 1200 JOTA AMERICA

● LAVERDA'S UNORTHODOX TRIPLE HAS NOW assumed its third incarnation and has a dollop more cylinder volume than it was given at birth—but less of almost everything else. For 1978 the bore diameter has been opened five millimeters, and the resulting 1116-cubic-centimeter displacement stretched upward to give the triple a "1200" model designation. With the engine enlargement, and by virtue of sundry detail changes, the latest version is, on balance, a better piece than the stage-two Thousand we tested in 1976 and rather more civilized than the original.

Unfortunately, in the process of enhancing civility Laverda badly blurred the triple's once exquisitely defined sporting character.

How do these things happen? Instead of burdening everyone with a lot of intricate and enervating verbiage about economics and market studies, etc., we'll just borrow from the improbable but illuminating tales of the legendary Hiram K. "Bass Mouth" Manney, whose claim of actually having seen a take-out car wash in New Jersey warns us he's not to be taken too literally. Bass Mouth also insists there is an organization called the "Please-All Plastic Company," which he says produces most of the essentials of civilization as we know it—using a giant machine that ingests polystyrene granules and excretes things like leisure suits, franchise foods, Playboy centerfold models and light beers.

More germane to the Laverda triple's five-year metamorphosis is Bass Mouth's contention that Please-All Plastic has a subsidiary doing international business under the name "Monkey-See Marketing, Ltd." According to Bass Mouth, the subsidiary is highly influential throughout the world of commerce even today, despite its unfortunate setback with the Edsel venture; companies continue to take the Monkey-See Marketing admonition to go for the mainstream, even when the odds in favor of sinking there are great.

There was no Monkey-See Marketing influence numbing minds at Moto Laverda when the first-edition 1000 was being given its form, and the bike emerged as something very far from being a mainstream motorcycle. It was mechanically unusual, and in overall effect as hard, harsh and direct as a mace. The example we tested in 1973 was far too stiff-legged to please touring riders, didn't have quite enough engine to outstraightline the then-ruling King of Superbikes, and the combined "racer's crouch" seating position and heavy low-speed handling made it something less than a joy in an urban setting. It was also naturally marked with the rough edges and high price always present in products from small-volume manufacturers.

But for the triple-distilled sporting rider, the Laverda Thousand's ability to cope with fast travel on twisty mountain roads excused its lack of polish and justified its price. It was a motorcycle with special appeal to no more than five per cent of America's riders, but there are upwards of five million motorcyclists in this country, which implies a body of about 250,000 potential Laverda lovers who would have adored owning the original Thousand.

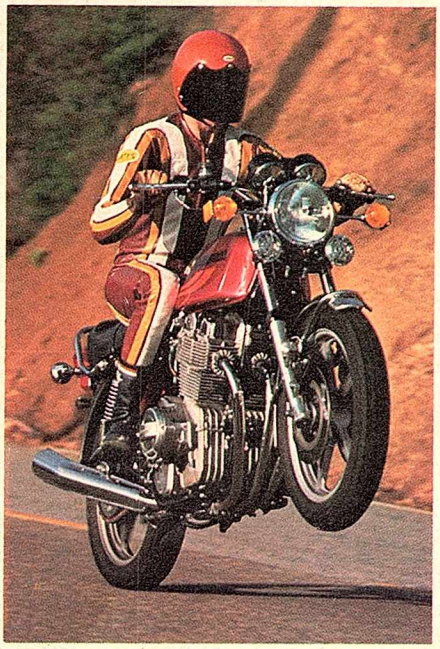
The above-mentioned quarter-million fringe lunatics will not be drawn to the Laverda triple as it is presently constituted. And the majority, the mainstreamers? It seems fairly safe to assume that those who want a Honda are going to buy one, which would seem to leave Moto Laverda all dressed up in a kimono with no place to go and us with no earthly reason for telling you all this. That's probably what the situation would be, too, if Laverda had the resources to completely change the triple, or hadn't devoted so much of those available to creating the new V-6 endurance racing machine. But, out of diverted enthusiasms or whatever, they've left a lot of the original Thousand hidden behind the new 1200's Please-All facade.

There wasn't, and isn't, much basically wrong with the three-cylinder Laverda engine. Fours are more common, and commonly thought to be a one-cylinder cut above triples; that isn't necessarily true. Look at any of the fours and you'll see that their intake tracts and carburetors have been pinched together to clear riders' knees. The inherently narrower three-cylinder configuration can have straight, efficient passages from carburetors to intake valves, and the Laverda does. On the other hand, triples aren't as well balanced as fours, which send two of their pistons zooming up as the other pair are being yanked down and in that fashion make their primary imbalances mutually cancelling. All the other triples we've seen have crankpins disposed at 120 degrees and, in consequence of that, a rocking imbalance their builders try to quell (with varying success) by means of funny crank counterweighting and elastic engine mounts.

Laverda's approach was offbeat but direct: they placed the crankpins for cylinders one and three on the same centerline, 180 degrees away from number-two; their engine is, in terms of dynamic balance, a middling-displacement single (a 370) that can't vibrate like one simply because it is held in check by a bigger engine's mass.

The Laverda triple's cylinder head is classically modern Italian, with double overhead camshafts and a 70-degree spread in valve angle, inverted-bucket followers and valve-stem tip-clearance adjustment caps. We're now very accustomed to seeing soft molded-neoprene carburetor mountings, but that's Japanese practice and the Laverda's three 32mm Dell'Orto "pumpers" are fixed firmly on aluminum spigots bolted over the ports. There's a plastic insulating sleeve separating spigot and carburetor body; this appears intended to prevent the direct transmission of engine heat rather

The new triple is on balance a better piece than the stage-two 1000 and more civilized than the original, but has lost its once exquisitely defined sporting character.



There's a lot of the original Thousand hidden behind the new 1200's Please-All facade, and the triple is better than before even if it isn't better than ever.

# LAVERDA 1200

than vibration.

The cylinder head, like the sleeved block and combined crank/transmission case, reminds us that aluminum isn't always injected into metal molds. There are brightly polished, shell-thin die castings used as covers over the valve gear and on both the primary-drive and electrics sides of the cases; the important, load-carrying inner redoubt has been cast in sand molds just as God and Vittorio Jano (in many Italian engineers' minds the same personage) have intended. Sand castings aren't intricate, usually; those supporting the Laverda's vitals are tidy, thick-walled and more than adequately strong.

You'll find few surprises inside the engine or transmission. The all-roller crank is carried in four main bearings and has the cam-drive sprocket carved on a bit of mainshaft adjacent to the number-two journal. A long extension at one end of the crank makes room for the electric-starter drive and the Bosch alternator-cum-ignition unit; the stubby splined left end of the crank has the oil pump drive gear, and over that a triple-row sprocket for the triplex-chain primary drive. One noteworthy feature is the "straddle-mounted" clutch and driven primary sprocket, which are on shafts supported both on the transmission side and also at their outboard end. Another real oddity inside the narrow five-speed transmission is the shifting cam: it's a kind of quarter-round drum, of built-up construction, unlike anything we've seen in the past.

Laverda has made some changes in the triple incidental to the 1200 conversion. There is the bigger bore, which created the need for bigger cylinder liners, which necessitated nudging and strengthening metal here and there. The crankshaft has been rebalanced to match the larger, heavier pistons, and there is more copious lubrication provided by increased oil-pump output. The (presumed) increase in engine power has caused a reworking of the Laverda's chain drive: the triple previously had a ⅝-pitch chain, running on 19- and 40-tooth sprockets; it now has a ¾-pitch chain and a 16/34 sprocket combination. This alters the final ratio from 2.11:1 to 2.13:1, which is an insignificant change in terms of performance.

The earlier Laverda triples have had wire wheels. Those on the 1200 are cast, and very lightly and precisely, but with the same rim widths as before. And with the die-cast wheels the Laverda has acquired a disc rear brake—which solves a problem the bike didn't have and introduces an odd riding-position difficulty we'll tell you about in a moment. The first triple had drum brakes, front and rear, and these worked splendidly. Drum brakes were *passé* even in 1973, but Laverda's were a match for the competition's discs, and the twin-disc front brake installed on the triple in 1976 was no more than slightly better. Now they've stuck a third disc on the rear wheel and that probably is a Good Thing in Europe.

In truth, the Laverda's old drum brake functioned just fine and didn't require the master cylinder that makes for lop-eared footpeg positioning on the 1200 America. The European model has a right-side shift lever and its brake pedal on the left, but the DOT has mandated right-foot braking here. So to get straight with the Feds, Laverda has encumbered the triple with a links, levers and spindle cross-over for the shift, and stuck the brake pedal over at the right. This was done on the 1000, fairly neatly, but they were then dealing with a simple brake cable. Moving the master cylinder is more difficult, and Laverda chose to make the conversion using the footpeg as a travel stop for the brake pedal. The unfortunate part of this is that it means you have to mount the footpeg to suit the brake, not yourself.

That arrangement would, in itself, suit some people some of the time; where it goes wrong is that the shift-lever location

B&W PHOTOGRAPHY: ROBIN RIGGS

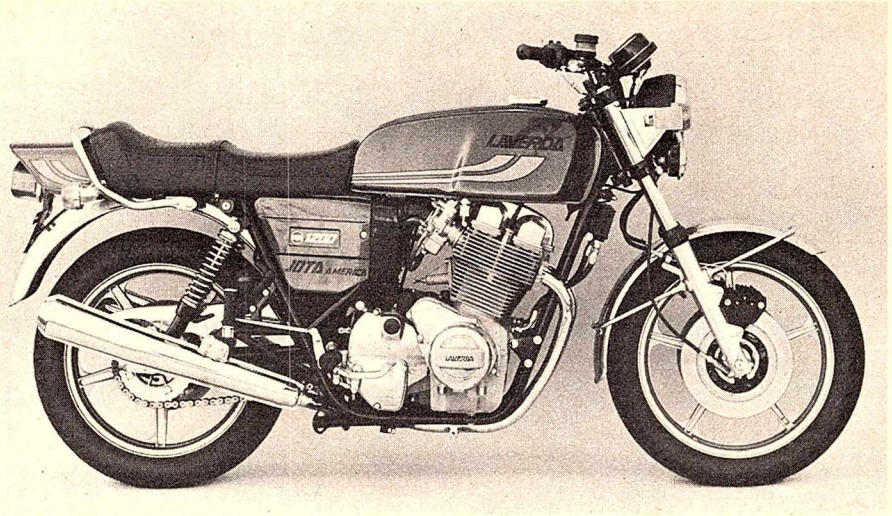
won't permit moving the left-side peg to match the one on the right. You can reach a reasonably close approximation, but only if you don't object to having the lever's business end at a very short reach from the footpeg.

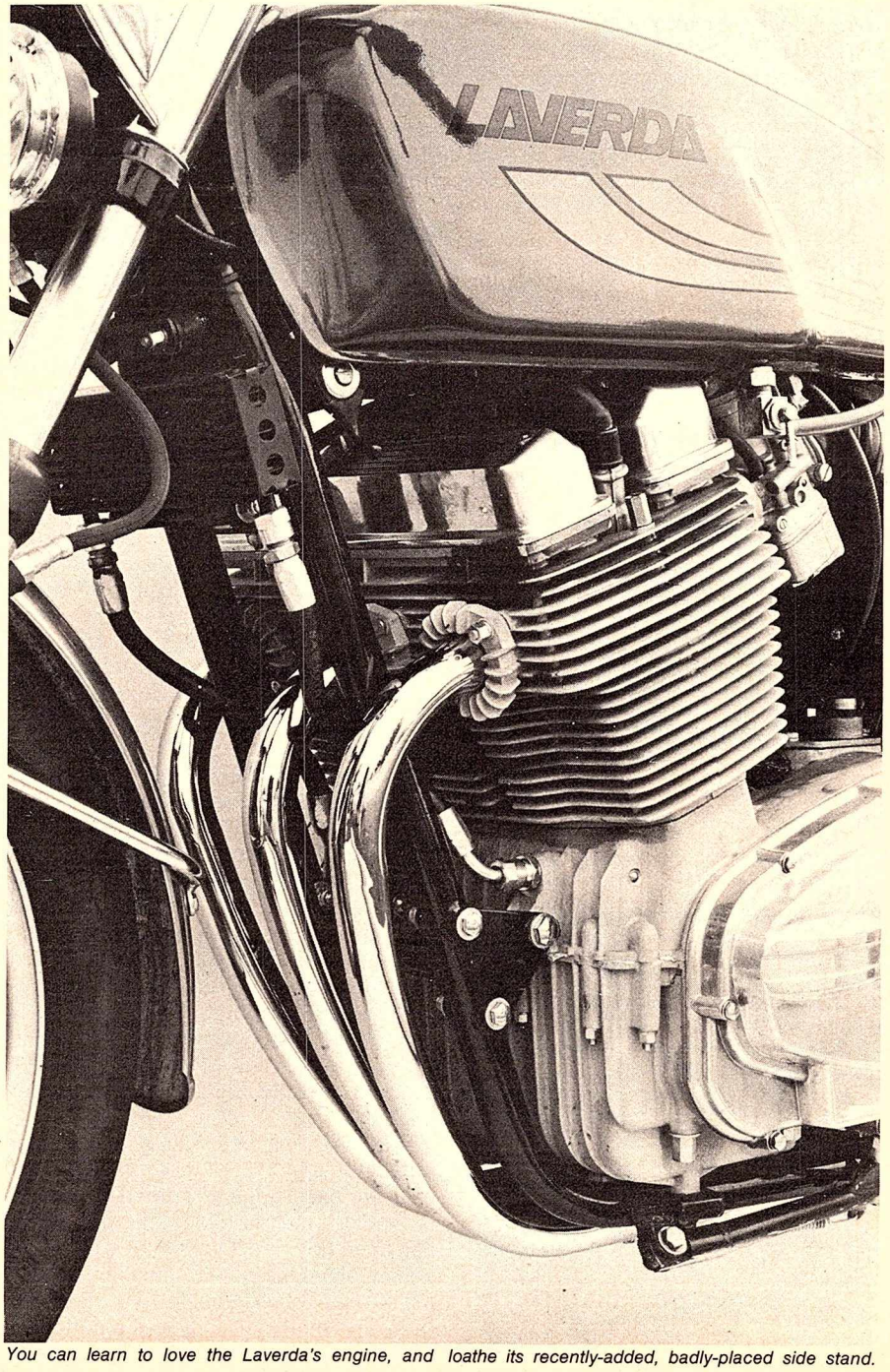
Here we present the first of our subversive suggestions for improving the Laverda 1200: the importers should provide, with each 1200, a bag containing all the hardware necessary to convert it back to European brake/shift deployment. We've ridden plenty of miles both ways, European and Japanese, and don't think there's any difference except when getting off one and climbing directly on the other. Then you have to give yourself a few miles of riding for reorientation.

One of our test riders thought the Laverda 1200's footpegs were too high; the rest of us liked the high position pretty well and were as always pleased with their basic rearward mounting. You can "post" on these pegs without finding yourself sliding back toward the taillight, which does wonders for one's ability to control the motorcycle. Also, by mounting the footpegs well back on the frame, and by keeping the transmission narrow, Laverda has blessed the triple's rider with a double-natural position for his feet: not only are the pegs back, they're close together. You could lift weights from the seating position on the triple without taking a chance on rupturing yourself.

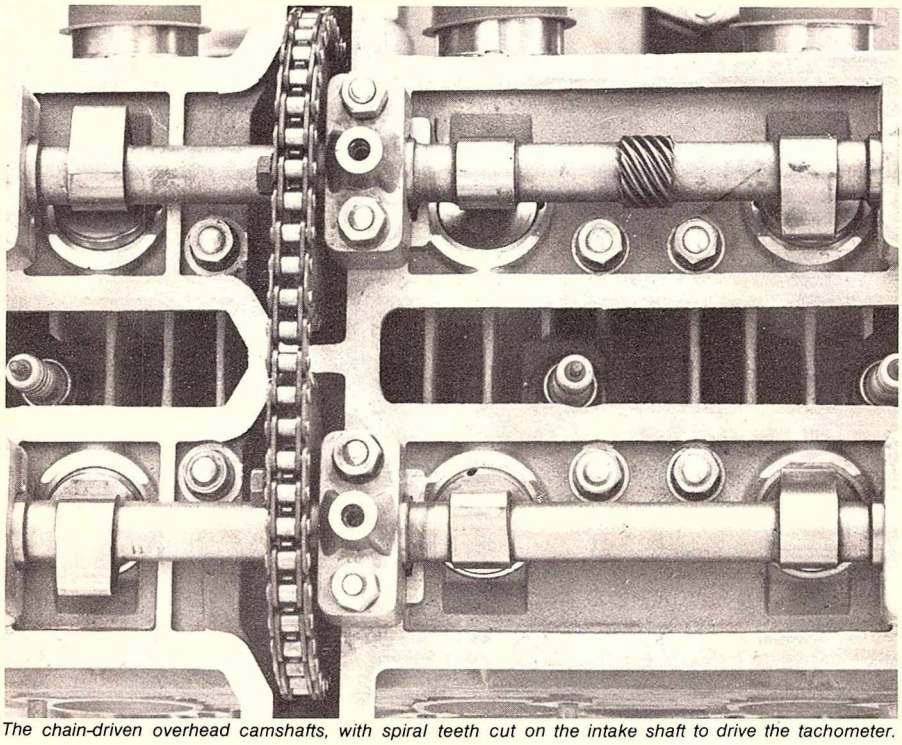
Everyone who sat on the 1200, without riding it, remarked that the bike's seat was too hard and narrow—but that the handlebar had an exceptionally good feel. This assessment proved wrong, both ways. The seat *is* hard and narrow, and feels as though it would become another Vinyl Crucifix after an hour on the road; in fact, it keeps right on being hard and narrow but it never sprouts the assortment of invisible barbs and needles we find in too many others. It's good the seat contributes to comfort because the handlebar does its best to make you miserable, as the ends' angling turns your wrists inward, cramping them, and the grips are too scrawny and too hard.

Even if the handlebar itself was perfect, and fitted with orthopedic grips, the Laverda 1200 would still give you a charliehorse in each forearm. As in the past, the triple has a clutch that's a perfect marvel at the drag-strip; it will absorb all the banging and slipping anyone might give it without a sign of distress. But you, the rider, have to pay for that torque capacity by struggling with the stiffest clutch lever in all of modern motorcycling. The original and Stage Two triples had the same resistance to being de-clutched; the 1200 also showed a lot of reluctance to let go even after the lever was pulled. When started in the morning cool, oil glued the plates together so tightly that the bike would lurch forward and stall after it was nudged into gear. You can beat that by pulling the lever and blipping the throttle.



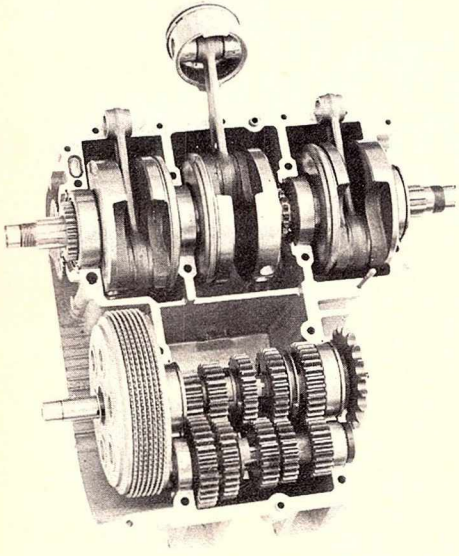




*You can learn to love the Laverda's engine, and loathe its recently-added, badly-placed side stand.*

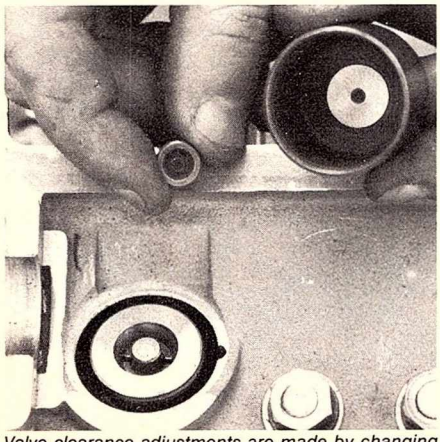


The chain-driven overhead camshafts, with spiral teeth cut on the intake shaft to drive the tachometer.

# LAVERDA 1200



The Laverda triple's lower crankcase half, with the primary drive removed to show the clutch plates.



Valve clearance adjustments are made by changing the small caps between followers and valve stems.

But there is enough residual clutch drag, even with the oil hot, to make neutral frequently elusive.

As noted before, the older Laverda triples' clutches would exercise a rider's grip until he had a left arm like Popeye. The new 1200 is an improvement to the extent that it will keep your arms symmetrical. Laverda's change from a drum to discs as a front brake was a great leap sideways, considering that their drum brake provided more stopping power than is used this side of a race track. And if the drum lost a couple of points on grounds that it could be made to fade, it still came up a winner with the bonus points awarded for rainy-day performance. Anyway, now the triple has the dual discs it acquired in 1976—with brake pads that won't work decently anywhere but on a race track. If you use the front brake hard enough, often enough, to get it smoking hot, it's not too bad. In even fast and furious road riding the pads stay too cool, and you have to squeeze the lever so hard your arm aches to work up decent stopping power. Too, the brake lever angle is such that heavy resistance is felt all the way out at the end of the lever's travel, which causes the brake to feel even firmer than it is.

The bike still has 32mm accelerator pump-equipped Dell'Ortos, which basically are excellent and worked splendidly on earlier Laverda triples, but the jetting has been botched. Our test bike's throttle action felt as though the mechanism was full of "Randsburg Loctite" (i.e. sand and rust), and that very likely was a condition peculiar to this one machine. But there's no doubt in our minds that the jetting chosen for the 1200 is only an approximation of what the engine wants. Those Dell'Orto accelerator pumps have a powerful way of making an engine respond to quick applications of throttle—about like jabbing a bull's flank with a cattleprod—and the mixture was acceptably clean at full throttle and maximum revs. All other modes of mixture delivery ranged from only fair to terrible.

Maybe when Laverda cleans up the 1200's carburetion its engine will once again come to life. Our test bike ran fairly strongly at the drag strip, turning times and terminal speeds faster than the 1976 model, and a quicker ET than the original (which was, at 106.13 mph, slightly faster through the speed lights). Still, it simply was not as crisply responsive as the first-edition triple. The 1200 would pull smoothly from 2000 rpm but needed 3000 rpm before accepting full throttle without complaint and didn't lose its heavy, sullen manner until pushed up around 4000 rpm.

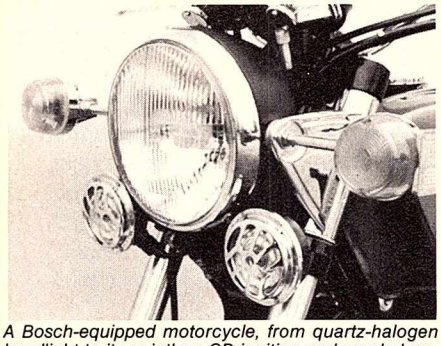
Given the over-rich mixture and the relative mildness of winters here in our part of the country, it was to be expected that the Laverda would not need much cold-start choking—and it didn't. The Dell'Ortos' accelerator pump delivery apparently has been adjusted back for small-volume squirts, as merely priming the engine with a vigorous twirling at the throttle wasn't sufficient. We had to reach down for the choke lever, and with that applied, the 1200 would fire at a touch of the starter button. Why do they put the choke lever down in that awkward spot? Probably because many Laverda owners fit the bike with bars too short to carry a choke control, plus all the other levers, switches, mirrors, etc.

Under the hinged seat, there is a lift-out tray containing a tool-roll and a squeeze bottle for chain lube.

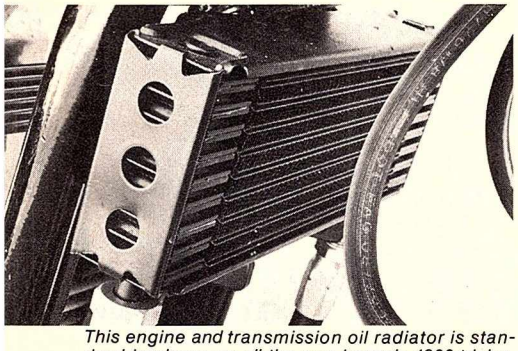
Breezing down the highway on the 1200 is a more agreeable experience than was offered by the earlier triples. It's a big motorcycle, but mostly in the direction of tall. The narrow seat is matched by a narrowness of tank, and the pegs don't force you to ride spraddle-legged. Neither are there large clots of cylinder head standing out past the tank to snag the unwary knee. It feels tidy and compact, and they've now taken out the extremes of the jolting the early suspension sent up to the seat. There's lighter fork damping,

and a relocation of the rear suspension units' upper mountings farther forward on the frame has considerably softened their action as well. It's no Cleopatra's Barge even now, much less in the same league with the Yamaha Eleven, but the old tendency to turn expansion strips into railroad cross-ties is gone.

Sadly missing is the first Laverda's superb cornering behavior. The 1200 is fundamentally a world better than a Stage Two 1000, which was only a thin cut above a Kawasaki Z-1. Massimo Laverda admitted, during a visit to our offices a year ago, that they'd revised the last



*A Bosch-equipped motorcycle, from quartz-halogen headlight to its pointless CD ignition and sparkplugs.*



*This engine and transmission oil radiator is standard hardware on all the new Laverda 1200 triples.*

model's steering geometry to get lighter low-speed handling. He conceded that perhaps they'd overshot the mark, and hinted at a yet newer version somewhat closer in that respect to the original. *Signore* Laverda had to have been talking about this 1200, and his people did get the new bike's steering geometry and balance neatly matched. The triple always has had the structural rigidity required for superior handling; it now seems to have a combination of rake and trail that reconciles the conflicting demands of steering lightness and high-speed stability.

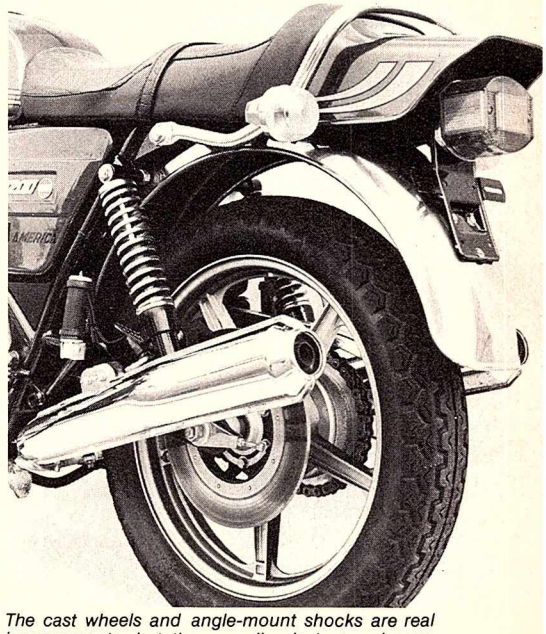
But Laverda has given us better handling with one hand and used the other to take it away. They got the required frame stiffness in the beginning, fixed their self-generated steering geometry problem, and then blew the game by making the suspension damping too limp. Our experience with the 1200 suggests that its rear shocks are adequate and that the trouble lies in the fork damping. Because the chassis is fundamentally sound, you don't have to look past the usual flex- and geometry-generated wobbling to see what's happening. Haul the 1200 into a fast, smooth turn, coasting on light throttle, and you can feel a bobbing start to build at the fork and then quickly transform into a closed-loop bob and wobble.

Fast bumpy turns will get you acquainted with a marked "lateral-pendulum" activity at the fork. Laverda has the twin-disc front brake's calipers mounted ahead of the fork sliders, where they are far from the steering axis and thus make a large contribution to the aforementioned pendulum effect. Calipers in that position are to a great extent removed from road grit and water, which usually is the reason given for mounting them there. Maybe, too, some motorcycles actually handle better when their brake calipers are in a forward position. But our experience says otherwise: we've made the front-to-back caliper move on a number of bikes and liked what it did for handling every time, and the way the Laverda's front wheel flicks in bumpy turns would have had us reaching for the wrenches had it been our own motorcycle. And it does appear that the job could be done simply by slipping the legs down out of the fork bridges and swapping them side-for-side.

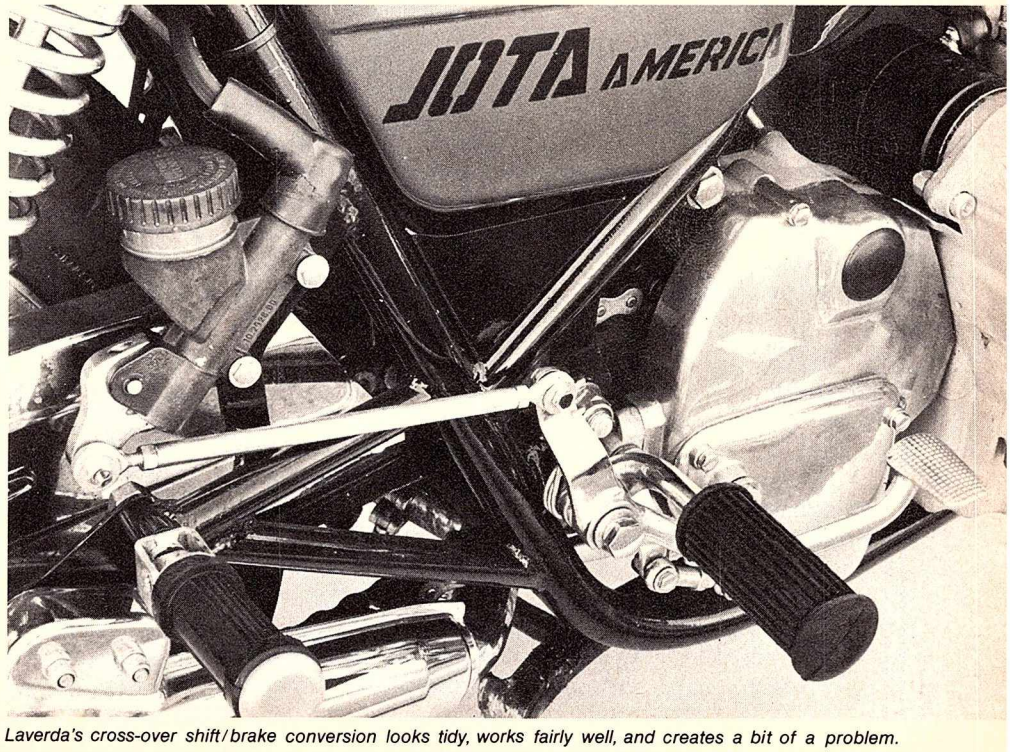
The Laverda 1200's darts and wobbles are not of a magnitude that would seriously intimidate anyone brave enough to push it so hard that this form of misbehavior appears. The experienced rider will quickly discover that the new triple wants him to hitch his weight forward and hunch his body sideways into turns, and he'll probably already know that Dunlop's K81 tires aren't going to shoot out from under him for no reason. Beware of the Laverda 1200, serious and experienced riders: it will give those Dunlops plenty of reason to lose their grip; the new Laverda

*(Continued on page 96)*

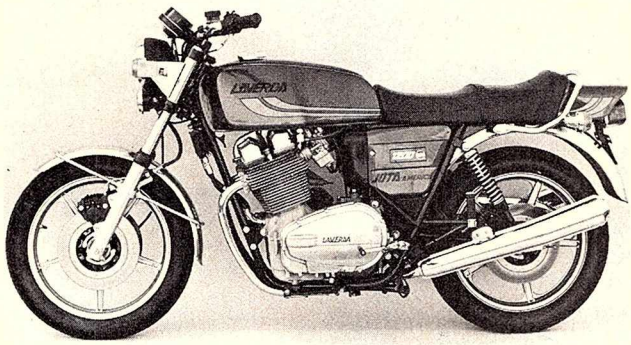
*The alternator/ignition unit's cover suffers when right-hand turns are made at immoderate speeds.*



*The cast wheels and angle-mount shocks are real improvements, but the rear disc is just a change.*




*Laverda's cross-over shift/brake conversion looks tidy, works fairly well, and creates a bit of a problem.*



Make and model ..... Laverda 1200 Jota America
Price, suggested retail ..... $4250

PERFORMANCE
Standing start ¼-mile ..... 12.83 sec @ 104.65 mph
Engine rpm @ 60 mph, top gear ..... 3494
Average fuel consumption rate ..... 30.0 mpg
Cruising range, main/reserve ..... 126/27 = 153 miles
Load capacity (GVWR less curb weight) ..... NA
Maximum speed in gears @ engine redline ..... (1) 39.0, (2) 59.3, (3) 81.2, (4) 95.1, (5) 111.6

ENGINE
Type ..... Four-stroke in-line triple, twin camshaft cylinder head with roller chain timing drive
Bore and stroke ..... 80 x 74mm (3.15 x 2.91 in.)
Piston displacement ..... 1116cc (68.1 cu. in.)
Compression ratio ..... 8.0:1 (full stroke)
Carburetion ..... (3) 32mm slide-throttle Dell'Orto
Exhaust system ..... Three-into-one, twin muffler
Ignition ..... Bosch CDI, electronic switching
Air filtration ..... none
Oil filtration ..... Wire strainer, washable
Oil capacity ..... 3.0 liters (3.2 qts.)
Bhp @ rpm ..... 72.98 @ 7500
Torque @ rpm ..... 54.27 @ 6000

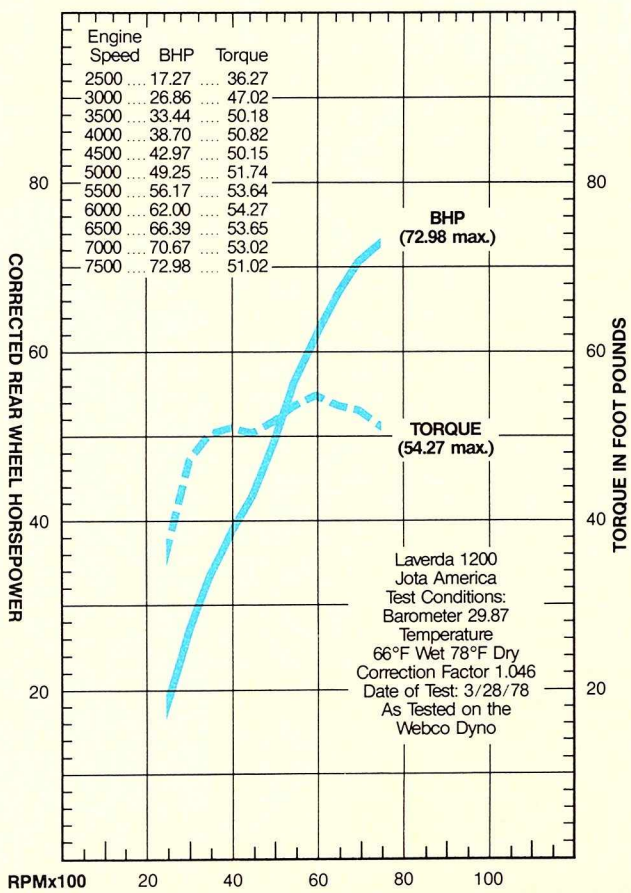
TRANSMISSION
Type ..... Five speed, constant mesh, wet-plate clutch, direct drive in fifth
Primary drive ..... Triple-row chain, 51/25 = 2.04:1
Final drive ..... Roller chain, 34/16 = 2.125:1
Gear ratios, overall ..... (1) 12.39 (2) 8.16 (3) 5.96 (4) 5.09 (5) 4.34

CHASSIS
Type ..... Tubular full-cradle frame with large-diameter backbone, telescopic center-axle fork, swing arm rear suspension
Wheelbase ..... 1470mm (57.9 in.)
Brake, front ..... Hydraulic, two 275mm (10.8 in.) discs with twin-piston calipers
rear ..... Hydraulic, one 280mm (11.0 in.) disc with twin-piston caliper
Wheel, front ..... One-piece cast, five spoke, 18 x 2.15
rear ..... One-piece cast, five spoke, 18 x 2.15
Tire, front ..... 4.10 H-18 Dunlop K81
rear ..... 4.25/85 H-18 Dunlop K81
Seat height ..... 823mm (32.4 in.)
Ground clearance ..... 132mm (5.2 in.)
Fuel capacity, main/reserve ..... 4.2/0.9 = 5.1 gal.
Curb weight, full tank ..... 252.2 kg (556 lbs.)
Test weight ..... 327.0 kg (721 lbs.)

ELECTRICAL
Power source ..... Single phase, permanent field alternator
Charge control ..... Electronic
Headlight beams, high/low ..... 60/55 watt
Tail/stop lights ..... 5/21 watt
Battery ..... 12V, 32AH

INSTRUMENTS
Includes .... 160 mph speedometer, 11,000 rpm tachometer, odometer, tripmeter, turn indicator light, high beam light, oil pressure light, charge light
Speedometer error, 30 mph indicated actual ..... 29.14
60 mph indicated actual ..... 59.05
Odometer error ..... plus 0.8%

CUSTOMER SERVICE CONTACT
Yankee Motor Corp.
PO Box 36
Schenectady, New York 12301
518-355-6010
Attn: Customer Services



# The difference between good and great.

Taste the difference Seagram's 7 Crown makes. Add one part sweet vermouth and a dash of bitters to three parts Seagram's 7. Stir with ice and strain into cocktail glass. Garnish with a maraschino cherry. Or pour over ice in a rocks glass. Either way, you've got a great Manhattan.

**Seagram's 7 Crown**

**Where quality drinks begin.**

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# This blur is brought 12-second

**Suzuki's GS-750 4-stroke** spits out quarters in the 12-second bracket. Which is a very elite bracket, indeed.

Reason it's such a rocket is simple. In some passing situations, flying is the only way to go.

Naturally, most of its 'oomph' comes from the 4-cylinder Dual Overhead Cam powerhouse. Which is properly nourished by four 26mm Mikuni carbs. And perfectly matched with a 5-speed gearbox.

Another key to its quickness is its lightness. Incidentally, because it is light, the GS-750 is very nimble in the turns as well as quick on the straights. Or, to put it another way, it's simply the best handling bike in its class.

Of course, with so much get up and go, you need brakes that get down and stop. So beefy discs are standard front and rear.

Since good vibes on a bike are no vibes, there's a roller-bearing crankshaft to smooth the engine. And to smooth out the bumps, there are 6-inch

# to you by Suzuki's rocket.

traveling front forks and rear shocks with five load settings.

Other nice touches include a plush new seat. Combination ignition and steering lock. Self-adjusting cam chain tensioner. And such nifty gadgetry as a digital gear indicator and tach that redlines at 9000 rpm.

All of which is to say, the GS-750 is more than a fast way to go.

It's the best way to go.

**SUZUKI**

***The Fast One.***

Ride safely: wear a helmet, eye protection and appropriate riding apparel.

CIRCLE NO. 31 ON READER SERVICE PAGE.

# Today's most refreshing low 'tar.'

# KOOL SUPER LIGHTS

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Refreshing like no other low "tar" cigarette. You can feel the difference its special kind of coolness makes.

## America's most refreshing low 'tar' cigarette.

**mg.** 'tar' in both sizes.

Warning: The Surgeon General Has Determined That Cigarette Smoking Is Dangerous to Your Health.

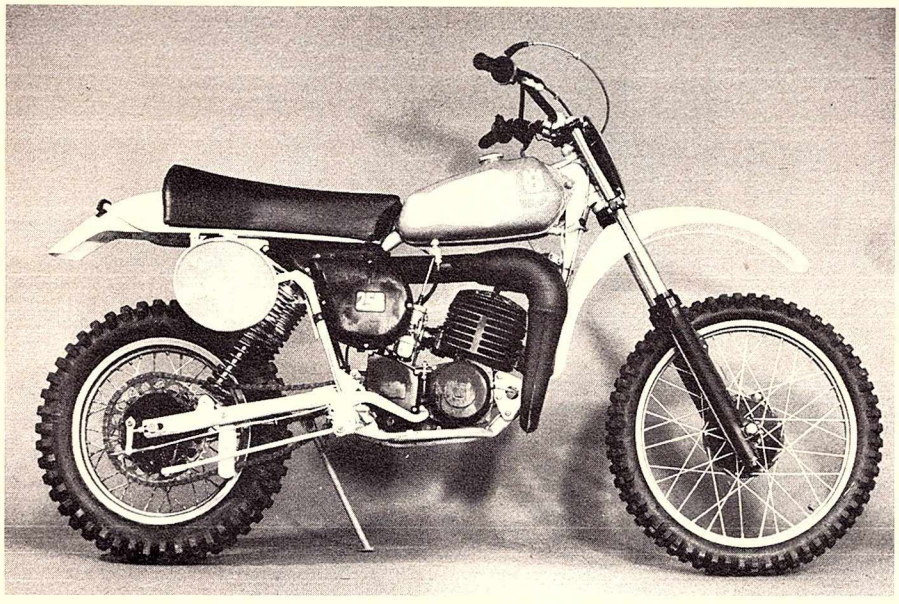
9 mg. "tar", 0 .8 mg. nicotine av. per cigarette, by FTC method.

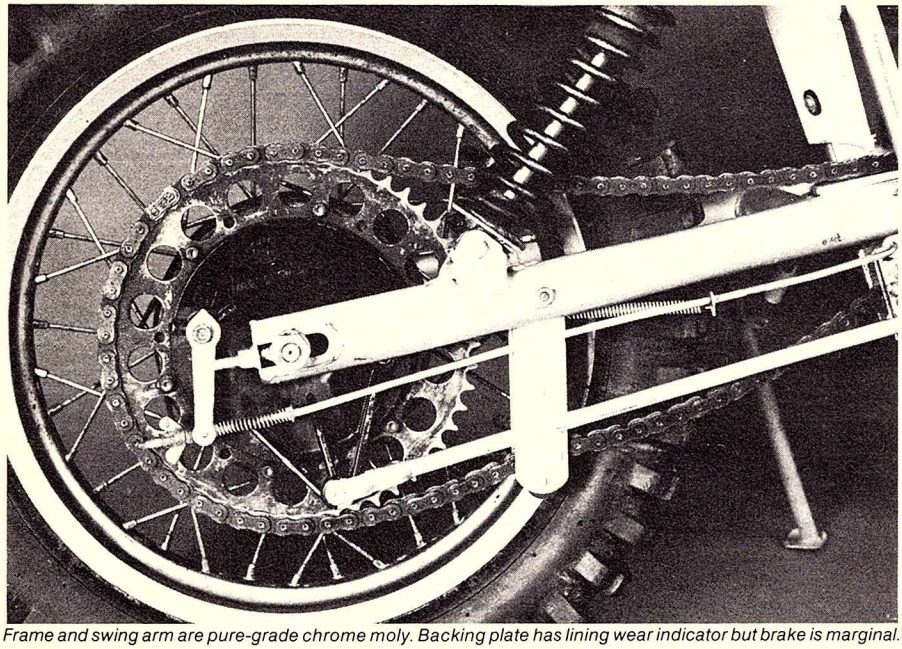
PHOTOGRAPHY: PAUL R. HALESWORTH, DAVE HAWKINS

CYCLE DIRT TEST

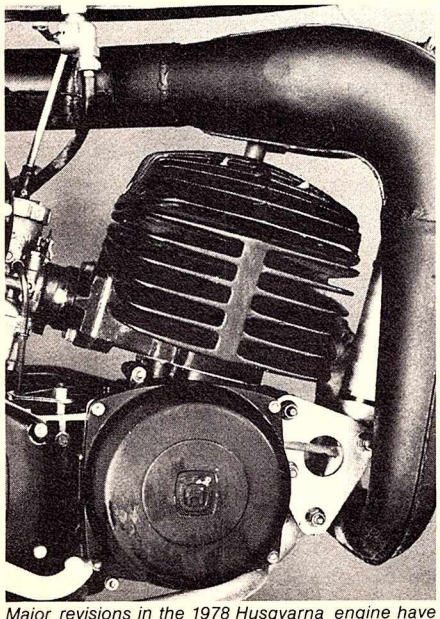
# HUSQVARNA 250 CR

A new engine and a six-speed transmission in a good-handling chassis will keep Husqvarna alive in 250 motocross.

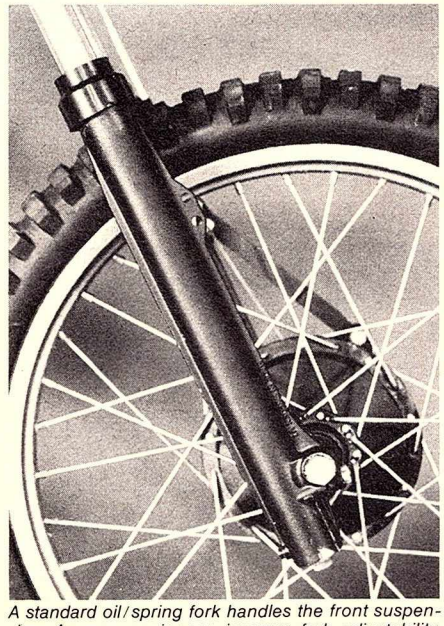




*Frame and swing arm are pure-grade chrome moly. Backing plate has lining wear indicator but brake is marginal.*



*Major revisions in the 1978 Husqvarna engine have brought the CR's maximum horsepower to 28.80*



*A standard oil/spring fork handles the front suspension. Accessory air-caps improve fork adjustability.*

# HUSQVARNA 250CR

● HAVE YOU EVER MET A MOTOCROSSER who buys strictly by the numbers? He's the guy who adds peak torque, maximum horsepower, redline revs, front suspension travel, rear suspension travel, the capacity of the remote oil reservoirs, the number of spokes in the wheels and the knobs on the tires—and then divides this sum by his lucky number which is his total weight plus his new riding number minus his last finishing position. He believes that the machine's superior technology will deliver him from the wilderness of the middle of the pack and deposit him securely in the winner's circle.

Experienced motocrossers know better. And so does Husqvarna, the Swedish company that has sold a long string of motocrossers to Americans. The European view is pretty straightforward: your motorcycle's specification chart won't make you a winner. Equipment may establish edges, but riders create victories.

Consequently, the owner's manual for the Husqvarna 250CR doesn't stress fancy speed tuning or give you a list of the latest go-fast accessory pieces. Rather, the last ten pages of the manual are devoted exclusively to developing a personal training program. While motorcycles are becoming more sophisticated, Husky realizes that *people* must ride the motocross machines. In a sport that is so physically demanding, Husqvarna has found that a tuned-up rider makes fuller use of any Husky's capabilities.

"Your aim during this training must be to get smoother riding technique. With smoothness, you don't need to work so hard—you can do the work with less energy loss."

The Husqvarna manual covers areas of training such as warm-up exercises and heartbeat-per-minute maximum frequency. The personal approach used in the owner's manual, taken together with the quality of the motorcycle, helps to assure the loyalty of Husky's riders. The reader begins to understand that Husqvarna wants to see the owner win—and not become another wheezing trackside mechanic shuffling through the shrapnel that once was a tuned-to-the-max missile. The owner gets tips on conditioning, rather than mass-produced, lightning-quick, flashy alternatives. The manual is chock-full of valuable information which, if taken and practiced seriously, will help anyone improve his riding.

Husky isn't in the head-to-head horsepower war in 250 motocross. According to Husqvarna, their intention in redesigning the 250CR's engine was to produce a wide and usable powerband. And their approach has been partially successful. The CR doesn't have a wide powerband in the sense of having steamroller torque at 4500 rpm. The CR's engine revs more slowly than many Japanese 250s but has an extended top-end (8000–9000 rpm).

In this current age of hyperactive, explosive power available from 250s, the Husqvarna is definitely the easiest bike to ride in its class. Although excessive wheelspin usually accompanies the power-burst of most rival 250s, the Husqvarna 250CR, thanks to the tuning of its engine, its rigid frame and excellent suspension, transmits every bit of power its engine produces directly to the ground.

In terms of sheer output, the Husqvarna makes 1.3 horsepower less than the Honda CR250R and 1.6 horsepower less than the Yamaha YZ250E at 7500 rpm. However, both Japanese bikes sign off abruptly at 8500 rpm, but at that point the Husky reaches its peak horsepower output of 28.80, which translates into 5.3 horsepower more than the Honda and nearly six horsepower more than the Yamaha at 8500. The Husqvarna pays for this topside power elsewhere. Both the Honda and Yamaha motocrossers pull more strongly by far in the mid-range. Once you've made an adjustment in your riding style, running the Husky high in the rpm range, the 250CR can become competitive. These numbers clearly indicate that the Japanese 250s will have an advantage exiting corners; but should time or terrain keep riders from shifting, the Husqvarna will punish your delay far less than the Honda or Yamaha.

When you first sit on the Husqvarna you immediately feel comfortable. The bars have a nice bend to them; the footpegs are mud-proof and in the right place. Magura contoured levers and quick-throttle add to rider comfort. The seat-tank junction is nice and narrow. Everywhere you look the CR is ready for racing.

The white plastic fenders are wide, and during our extended mud riding were often caked with thick moist clay. The fender mounting system was excellent, for even after hours of mud riding the fenders showed no signs of weight fatigue. The tank is typically—and elegantly—Husqvarna. The stylish brushed-aluminum bare spots in the red paint have a strong visual appeal that's a Husqvarna tradition.

Husqvarna has used reed valves since 1974; the new CR is no different. After passing through the reed cage into the crankcase, the charge goes up into the cylinder *via* six transfer ports, and, after ignition, the waste gases exit *via* a bridged exhaust port.

There's a real surprise hanging on the inlet side of the reed cage. The formerly stock 36mm Bing carburetor has been replaced with a huge 38mm Mikuni, the addition of which has made starting the CR easy. The bike came alive with three or four kicks every time, causing us to wonder if we were indeed on a Husky.

The kick starter, with more bends than a pretzel, tucks in nicely. However, the 10mm nut that tightens the kick lever requires constant attention, for if it is too loose the kick lever will flop out and at the

# HUSQVARNA 250CR

very least distract the rider; and if too tight, the lever will refuse to swing out.

The engine's cylinder and head are cooled by massive radial fins. The cylinder has a pressed-in-place liner that will tolerate third-over pistons before needing replacement. With pressed-in liners it is usually impossible to form a uniform seal between the liner and the cylinder itself, resulting in hot spots that score the piston skirt. Nonetheless, our test engine appeared to have a well-sealed fit, and only slight markings were noted on the piston after we had completed our testing. The piston is a single-ring model and uses a hard-chromed ring for long life.

Pressed liners have another common problem: the liner windows and the cylinder tunnels are often misaligned. Husqvarna has dealt with this problem by hand-retouching cylinders with porting tools before an engine is assembled.

Husqvarna has redesigned the CR's expansion chamber. As has been usual with Husqvarna, the silencer is located in the rear portion of the belly of the pipe. Following the silencer, the pipe is tapered into a long stinger. By removing three screws and nuts, the rear section of the pipe can be removed for direct access to the internal silencer. The exhaust pipe exits the exhaust port on the left side of the main frame downtube and wraps around the frame and up along the right side of the CR. The exit from the cylinder, smooth to ensure non-turbulent flow of spent gases, steadily increases in diameter up to the silencer area of the belly.

To best utilize the Husky's high-rpm power characteristics, the CR has a new six-speed transmission with straight-cut, constant-mesh gears. Throughout our testing the Husqvarna shifted flawlessly. Once we had adjusted the longer-than-usual gearshift throw, the CR shifted quickly and positively under full power. Downshifts went through just as easily.

The Husqvarna frame, used in the 250CR and in nearly identical form in all Husky off-road bikes, is one of the oldest and most race-proven designs. The CR's frame has a massive steering-head stem and a huge main-backbone frame tube. Although these parts seem larger than necessary, with the use of Husqvarna's pure-grade chrome-moly the CR weighs only five pounds more than the Honda CR250R. Perhaps the Husky chassis could be lighter, but a weight-saving program might well compromise the durability of the frame. And that's a Husky concern. Since older Husqvarna units frequently developed cracks near their welds, the manufacturer now heat-treats the entire frame after the welding has been completed, a process which has,

| | |
|---|---|
| Make and model | Husqvarna 250 CR |
| Price, suggested retail | $1815 |

ENGINE

| | |
|---|---|
| Type | Two-stroke, air-cooled single cylinder |
| Bore and stroke | 69.5 x 64.5mm (2.74 x 2.54 in.) |
| Piston displacement | 245cc (14.95 cu. in.) |
| Compression ratio | 12.3:1 (full stroke) |
| Carburetion | 1; 38mm Mikuni |
| Exhaust system | Expansion chamber with silencer |
| Ignition | Magnetically triggered, magneto-energized electronic CDI |
| Air filtration | Oiled foam |
| Oil filtration | None required |
| Bhp @ rpm | 28.80 @ 8500 |
| Torque @ rpm | 19.99 @ 7500 |

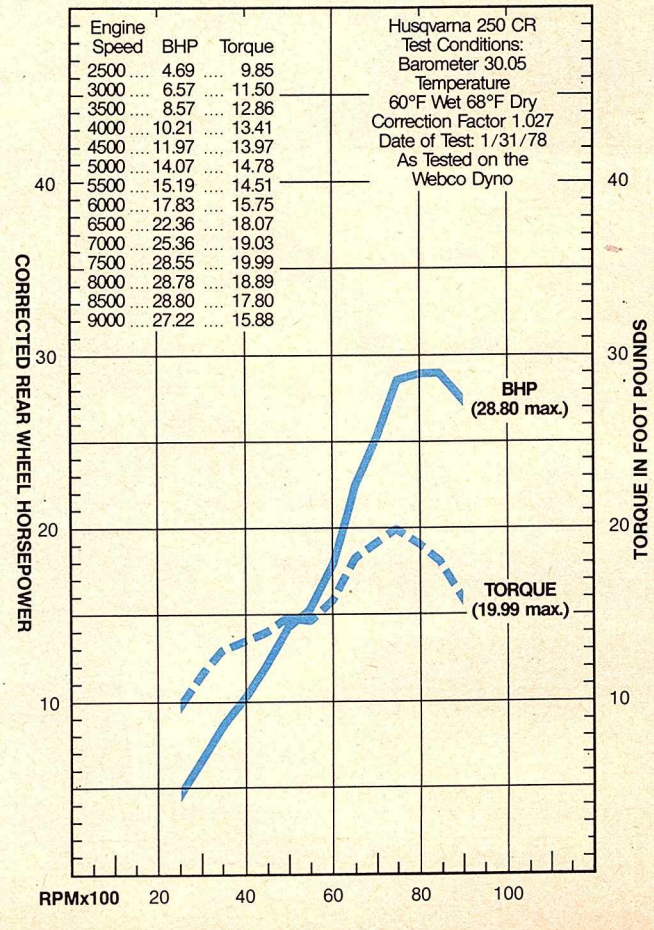
TRANSMISSION

| | |
|---|---|
| Type | Constant-mesh, six-speed |
| Primary drive | Straight-cut gears; 2.41 (29/70) |
| Final drive | ⅝ x ¼ in. chain |
| Gear ratios, overall | (1) 2.07 (2) 1.56 (3) 1.24 (4) 1.04 (5) 0.88 (6) 0.78 |
| Oil capacity | 1.6 lit (1.69 qt.) |

CHASSIS

| | |
|---|---|
| Type | Tubular steel, single downtube, semi-cradle |
| Wheelbase | 1455mm (57.28 in.) |
| Rake/Trail | 29°/152mm (5.98 in.) |
| Brake and hub, front | drum, conical, double shoe |
| rear | drum, conical, double shoe |
| Wheel, front | Shoulderless alloy |
| rear | Shoulderless alloy |
| Tire, front | 3.00 x 21 Trelleborg 2 pr |
| rear | 5.00 x 17 Trelleborg 4 pr |
| Seat height | 927mm (36.5 in.) |
| Ground clearance | 325mm (12.8 in.) |
| Fuel capacity | 7.8 lit (2.06 gal.) |
| Curb weight, full tank | 105.2 kg (232 pounds) |
| Suspension, front | Telescopic, forward-axle fork |
| rear | Girling shocks |

CUSTOMER SERVICE CONTACT
Husqvarna Motorcycle Co. Inc.,
4925 Mercury St.
San Diego, CA 92111
Attn: Customer Service



they report, cured the old problem. We examined our test bike closely and found no such stress cracks on the frame.

The chassis is a single-downtube design that splits into a semi-cradle to support the engine. The steering-stem load is supported by tapered Timken bearings. The silver frame is clean in design; but small tabs are added for the pipe, air box and number plates.

Although aluminum swing arms are the current rage in motocross, Husqvarna uses chrome-moly for the CR unit. An aluminum swing arm is comparable in strength to a chrome-moly swing arm only when both are equal in weight, and since aluminum is a less dense metal than chrome-moly alloy, the aluminum arm would therefore have to be larger to be as strong. On the CR, Husqvarna opted for chrome-moly and a compact, rigid arm.

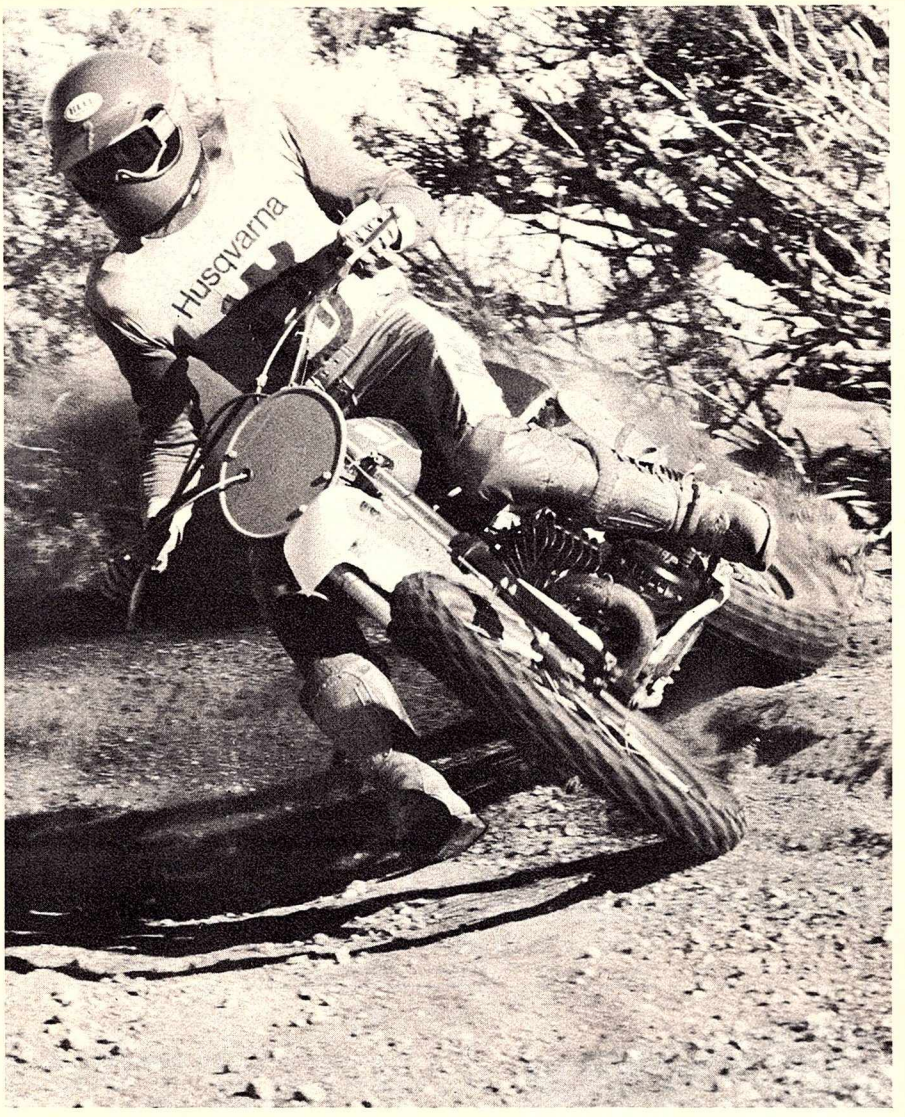
The swing arm rotates on four needle bearings. Our testing included both muddy and hard-packed terrain, and a close inspection at the end of the test period indicated the needle bearings, sensitive to a dirty environment, had been effectively sealed off from the elements and survived nicely.

The gas-charged emulsion shocks, which attach to the swing arm in a forward-mounted and slightly laid-down position, are made exclusively for Husqvarna by Girling. The shocks use 36mm bodies instead of the standard 32mm bodies. The greater oil area allows the shocks to contain more oil, resulting in greater resistance to fade from overheated oil.

The shocks offer 10.5 inches of rear-wheel travel. The travel is consistent with good progressive spring action. Each Girling employs two separate springs, one long and one short. Both sections of wire have the same pound-inch rate, but because they differ in length, the two springs yield a dual rate equivalent to an 80/140 pound-inch combination. The CR's rear suspension was as good as any conventional dual-shock system we have tested.

Husqvarna manufactures the front fork, a standard spring-oil model with nine inches of travel. It performed remarkably well so long as the fork legs were full of oil. During the first moto in which we raced the CR, the left fork seal failed and caused a severe fork-oil leak. Between motos we replaced the lost oil; again the fork functioned nicely until the oil streamed past the faulty seal; at that point the front suspension became too soft and the damping action was all but lost. We replaced the seal with another stock Husqvarna seal and had no further fork problems for the remainder of the test.

Many riders replace the Husky's fork caps with air adjustable caps to give the Husqvarna the broad-range adjustability which an air fork offers. We had a chance to ride a local pro's bike and compare the air-fork modification to stock-fork performance; all *Cycle* test riders preferred the air accessory model. A local Husqvarna shop offers the air caps for only $11.95—an item we think is well worth the price.




Each fork leg attaches to the triple clamps with only one bolt in the top yoke and the normal two bolts in the lower mount. Given this mounting system, we anticipated a fork wobble; that never happened, so credit must go to Husky's design and materials. The handlebar attaches to the triple clamps with angled clamps that assist the CR's quick steering. Rubber-mounted, the handlebar contributes its share to the Husky's amazing lack of vibration.

The 250CR has a rake of 29 degrees and that, coupled with the Trelleborg 3.00 x 21-inch front tire, enables the Husqvarna to corner like a cue ball. Most riders can just slide forward on the tank and pick any line. Mid-turn corrections are also easy, thanks to the quick-response handling of the CR, and that's always welcome news for beginners who often discover their hot line through a corner tends to exit straight through the center of the berm in bulldozer fashion. Maneuverability counts too for experienced riders who may be trying to pass and dodge slow-moving traffic in corners. In muddy conditions the Trelleborg front tire performed excellently, but on hard-packed adobe it pushed outward in most high speed turns. If you plan to race in predominantly arid conditions, plan also to change the front tire.

Trelleborg makes the new oversized 5.00 x 17-inch rear tire as well. While we were not happy with the performance of the front tire in dry conditions, the rear tire proved absolutely first-rate. The Trelleborg low-profile 17-inch tire has several advantages. First, with the wider and lower tire the suspension can be reworked to increase rear-wheel travel; this can be done by using longer-travel shocks or laying down slightly longer shocks at a more acute angle. Since the tire is actually shorter than conventional 18-inch tires, the savings in height can be translated into greater suspension travel before the tire inevitably contacts the underside of the rear fender. Second, experienced professional riders have recently discovered that 17-inch tires can be run at lower pressures. The tire seems to cushion the rim and to give a softer, smoother ride, especially on long, tough downhills, precisely the type you might encounter at Carlsbad, site of the United States Grand

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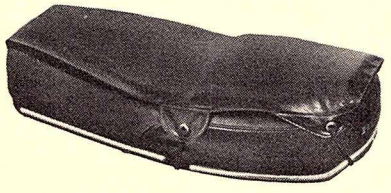

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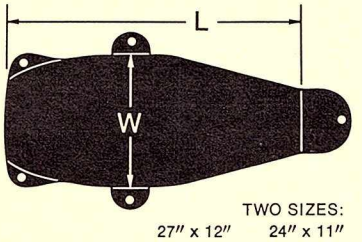


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**HUSKY 250 CR** ..... *Continued from page 47*

Prix. Finally, the rear tire's low-profile construction places more tread surface on the ground, which is why we liked this mud-tire even on hard clay. The front tire is of two-ply construction to save weight; the rear is a standard four-ply design.

The Trelleborgs are mounted to a set of new gold-anodized, Husqvarna-manufactured rims. A demonstration of Husqvarna's versatility, the rims have an unusually deep center groove, allowing much easier and faster tire changes, something of direct benefit to enduro and reliability-trials riders. The deep center makes room for the bead of one side of the tire while you're levering on the opposite over the rim's shoulder. A tire change can be made with only two tire tools, and that's terrific.

Both wheels are laced to conical hubs in new cross-three spoke patterns. The front hub appears to be the same as last year's, but the rear hub's spoke flanges are further apart. This added distance offers a steeper spoke angle from the flange to the wheel, increasing its strength. To add to the overall rigidity of the rear hub, the axle bearings have been spaced more widely than before. This change gives the bearings—and thus the wheel—a wider stand on the axle, and decreases the shock loadings on the bearings that result from side blows to the tire and wheel.

While the wheels and hubs impressed us, the CR's brakes did not. The rear brake lever is cut out of thin flat steel stock and the boot contact-patch is just a turned-up extension of the lever. The pedal offered little boot traction in the mud. When the pedal *was* located and pressure applied, the resulting rear braking action was not strong enough, we felt, for a race bike.

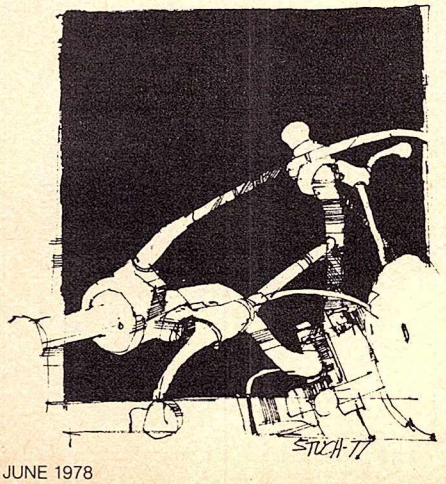
Because the 250CR is down on power in the mid-range, compared to front-rank Japanese bikes, the Husky is particularly vulnerable to being snapped up by a Honda or Yamaha on the exit of a turn. One way to compensate for this disadvantage is heavy braking *into* turns. We tried this technique, and more than once we found ourselves enmeshed in banners that mark the course. The front brake would have been adequate if matched up with a strong rear brake; it could not, however, make up for the ineffectiveness of the rear brake.

In an effort to improve the CR's rear brakes, the actuating lever has been increased five millimeters. While this extension provides greater leverage over the same component on older model CRs, the problem requires further attention still. Getting more leverage on a marginal brake just isn't the solution. Fitting a much better rear brake *is* the answer.

Husqvarnas, in general, use a race-proven design. While the 125CR may be an exception to this rule (it was burdened with propelling an oversized and overweight chassis), the 250 fits its frame nicely and has earned its spurs on tracks around the world. Heikki Mikkola won the 250 World Motocross Championship on a Husqvarna.

While more expensive and a bit heavier than leading Japanese machines, the 250CR does have an important place in the American motocross scene. Riders who don't care for the handling characteristics of a Japanese bike will appreciate the Husqvarna's qualities. It's durable and will, most assuredly, last a long time. And in the area of consumer satisfaction, Husqvarna leads again.

In 1978 Husqvarna won't be supplying its customers with high-fashion hardware having the most horsepower or the greatest suspension travel or most magnesium. What Husky does offer is an exceedingly competent motocrosser—most likely the best non-Japanese 250 available—and some genuine Swedish common sense about motocross racing. And that combination, despite its lack of glitz and glitter, may still be more than most riders use. ◉

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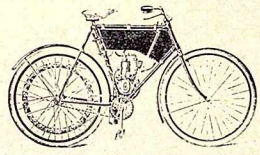

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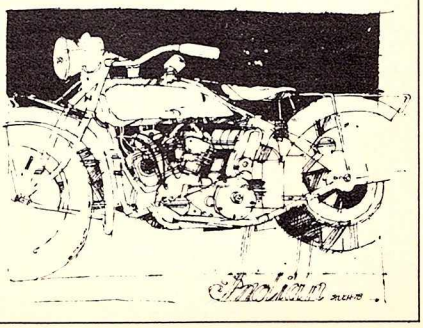

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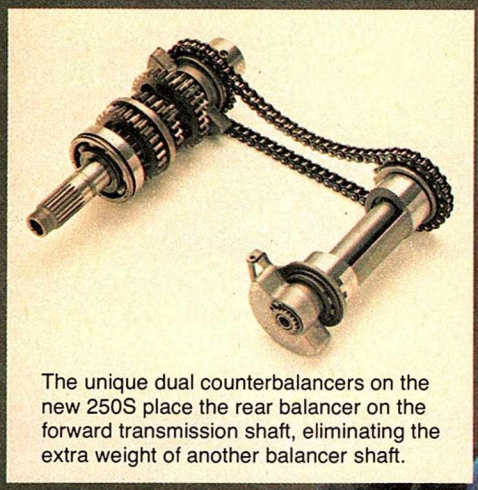
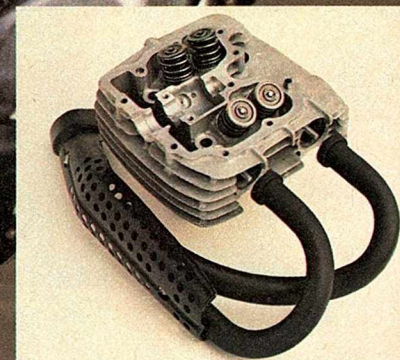
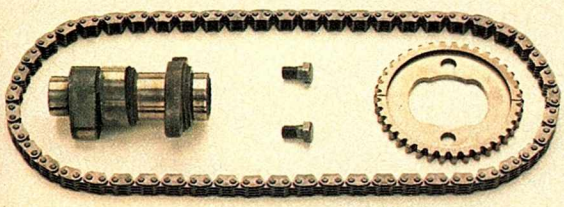


The unique dual counterbalancers on the new 250S place the rear balancer on the forward transmission shaft, eliminating the extra weight of another balancer shaft.

The instrumentation is simple and easy-to-read. There's a large knob on the tripmeter for easier mileage resets.



The new dual-exhaust-port head mates to twin header pipes to give the XL better cooling and a more stable power output.



The XL's camshaft is driven by a smooth-operating Hy-Vo chain.

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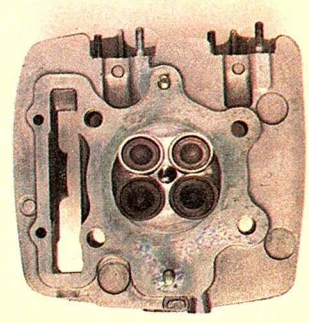
Drawing on years of high-performance four-stroke technical leadership, Honda engineers settled on a single-cylinder, big-bore, short-stroke combination of 74mm x 57.8mm. Displacement: 249cc. Then they set out to improve on the XL's competition-proven, OHC four-valve cylinder head. Exhaust valve size was increased for greater flow, more rpm. Each exhaust valve was given its own port to eliminate cross-flow turbulence and further increase rpm.

But Honda wasn't finished.

Mated to this advanced-design Honda cylinder head are dual header pipes that flow back into a two-stage muffler with USDA-approved spark arrestor. This new exhaust system and improved cylinder head work with the XL's 28mm Keihin carburetor and five-speed transmission to deliver startling power. On tap at all times.



With four valves instead of the conventional two, the XL breathes better and can produce more power over a broader rpm range.

With all this high-performance technology huddled inside the new XL-250S engine, a conventional ignition system just wouldn't do. So you'll find a hot-sparking, low-maintenance, moisture-resistant Capacitor Discharge Ignition firing this new thumper. And since the XL sports a healthy 9.1:1 compression ratio, there's also an automatic decompression system in the cylinder head. It helps make kick starting easier than ever by holding the exhaust valves open part way through the compression stroke.

With the XL running and on its way, you'll really enjoy the comfort and smoothness Honda has built into the 250S via its dual vibration counterbalancers.

**SAE net taken at the crankshaft.*

# XL-250S. SEE THE LIGHT.

Light is right! The all-new 1978 Honda XL-250S is one of the most revolutionary advances in dual-purpose motorcycle technology. And it weighs only 260 lbs. dry!

Honda's engineers wanted to more than update an existing model when they designed the new XL-250S. They wanted a machine with the same reliability features that go into every Honda, and a machine whose combination of speed, power, light weight and superb handling set it apart, and ahead, of the crowd—an overall class performance leader.

So they went out and built it.

Naturally this new First Into The Future XL is fast and powerful, but one of its most important features is its weight. Or more exactly, its *lack* of weight.

The 260-lb. XL-250S is the result of painstaking work on the part of Honda R&D. The engine is much more compact than before, and it weighs over five pounds less, in spite of the fact that it now has two counterbalancers, which is covered in more detail on the next page. The new XL frame also helps keep weight down. It can be made lighter because it must cope with less engine vibration. Yet it's strong for great handling.

Still, it takes more than just light weight to produce a great handling motorcycle. It takes excellent suspension.

And the XL has it.

Up front, new leading-axle forks deliver 8 inches of hydraulically-controlled travel. And new, gas-pressurized rear shocks mount in a lay-down position for 7 inches of rear wheel travel. This new suspension gives the Honda XL-250S more travel than any machine in its class!

Yet there's an even bigger story to tell about the new XL's handling ability—the incredible new 23-inch front wheel. A first for a production dual-purpose bike. The new wheel improves steering, cornering and braking by laying a longer footprint on the ground. It's an innovation that may well sweep the off-road world. And only Honda has it.

The new tread pattern tires are designed for outstanding traction both on- and off-road.

To finish off the all-new XL-250S in typical Honda fashion, the search for better handling and performance has reached all the way to tire design. Both the 3.00-23 front and 4.60-18 rear tires have a new-pattern tread designed for outstanding traction both on- and off-road. This new tread pattern was designed by Honda specially for the new XL-250S.

The new XL-250S is a lightweight handler, but its new engine delivers heavyweight performance, as you'll see on the next page.

HONDA

# XL-250S. GET ON BOARD.

There isn't another 250cc dual-purpose machine that offers the futuristic technology found in the new Honda XL-250S. Or one that can match its combination of torque, acceleration and power, let alone its light weight, long-travel suspension, 23-inch front wheel and new-pattern tires. Additionally, with the XL-250S you get a machine that's bred with a heritage of uncompromising reliability. Honda reliability.

In the tough and demanding on/off-road world, the revolutionary new 1978 Honda XL-250S leads the way into the future. Join the revolution today, at your Honda dealer.

*Always wear a helmet and eye protection, keep lights on and check local laws before riding. Designed for operator use only. Model availability may be limited. Specifications are subject to change without notice. For free brochure, write: American Honda Motor Co., Inc., Dept. C68XLS, Box 50, Gardena, California 90247.* *©1978 American Honda Motor Co., Inc.*

**XL-250S SPECIFICATIONS:**

ENGINE
- Type . . . . . Single-cylinder, OHC, four-valve, four-stroke
- Displacement . . . . . 249cc
- Bore and Stroke . . . . . 74mm x 57.8mm
- Compression Ratio . . . . . 9.1:1

TRANSMISSION
- Gear Ratio I . . . . . 2.800:1
- Gear Ratio II . . . . . 1.850:1
- Gear Ratio III . . . . . 1.375:1
- Gear Ratio IV . . . . . 1.111:1
- Gear Ratio V . . . . . 0.900:1

CLUTCH . . . . . Wet, multi-plate

SUSPENSION . . . . . Front, telescopic forks with 8-in. travel; Rear, gas-pressurized, lay-down shocks with 7-in. wheel travel

TIRE SIZE . . . . . Front, 3.00-23; Rear, 4.60-18

IGNITION SYSTEM . . . . . CDI

DIMENSIONS AND CAPACITIES

| | | | |
|---|---|---|---|
| Wheelbase | 54.7 in. | Overall Lgt. | 85.6 in. |
| Dry Weight | 260 lbs. | Overall Width | 34.4 in. |
| Fuel Capacity | 2.5 gal. | Seat Hgt. | 33.5 in. |

COLOR . . . . . Solid Red

HONDA

GOING STRONG!

CIRCLE NO. 29 ON READER SERVICE PAGE.

PHOTOGRAPHY: DON PHILLIPSON, DAVE HAWKINS

CYCLE DIRT TEST

# YAMAHA IT250

After 1000 miles of high speed over rough ground, there's only one legitimate question: Do six gears, loads of power at any rpm and countless trick details make up for too much weight and not enough suspension?

# YAMAHA IT250

● IN THE 1976 AUSTRIAN INTERNATIONAL Six Days Trial, Yamaha riders earned three Gold Medals aboard IT400s. Bill Stewart, a Yamaha Research and Development man, performed extensive modifications on the 400s specifically for the ISDT team's effort. Since then the factory has incorporated most of the Stewart modifications into the stock machines in the IT line.

For 1978 Yamaha is essentially offering production-line machines developed for and proven in International Trial competition. We thought this would be an appropriate time to subject one of these bikes to Six Days-type testing. Since the 250 had never been a subject for one of our full-scale dirt tests, we chose to take the IT250E to Baja California for six consecutive days of riding. In that time, we rode 850 miles, carried our living supplies on our backs, went on rescue missions, fared well against the vengeance of Montezuma and were entirely pleased with the IT's performance.

The developmental history of the IT is short but interesting. Yamaha had the basic machine ready for production in 1976. At that time, the IT was significantly different from the YZ-racer in some respects, though mechanically the enduro was pretty similar to the motocrosser. The major differences were the addition of lights, a large gas tank, a speedometer, a coil-spring fork (rather than the YZ's air fork), a high breather intake, a chain tensioner, lower- and higher-ratio first and fifth gears, helical-cut gears (rather than the YZ's straight-cut gears), a DT-model clutch which was narrower than the YZ's clutch, and Bridgestone tires.

As enduro-kitted motocrossers, the ITs were a giant step ahead of previous Japanese enduro bikes, but they were still technologically behind the better European enduro mounts. With Yamaha's serious 1976 Six Days' effort, the company proved it had the knowledge necessary to produce Gold Medal-winning machines.

Most of that knowledge appeared in material form on the D-model ITs. Changes included a cutaway countershaft-sprocket cover to eliminate the buildup of mud, a frame-mounted tool kit, quick-release front and rear wheels and an improved chain tensioner. With these refinements, the IT took its place as one of the leading enduro bikes on the market.

But where the first ITs were essentially YZs with modifications, this year's ITs are their own motorcycles. This did not happen because Yamaha made any sweeping changes in the IT's chassis or engine specifications. Rather, Yamaha changed the *YZ's* basic makeup, leaving the ITs as sole proprietors of the YZ's original design—and free to continue the process of refinement. Regardless of the origin of the IT's original components, or the impetus for the YZ's changes, all the ITs—specifically the 250—perform remarkably well.

*3.2-gallon gas tank gives an 80-mile range; tucked-away pipe allows a comfortable standing position.*

According to Yamaha Motor Corporation spokesmen, the ITs are basically ISDT-ready. The one qualification to this statement, they add, is in the area of suspension. Many enduro riders feel the disadvantage of the height increase from very-long-travel suspension is not balanced by the benefits. Consequently, in this area, Yamaha has chosen to compromise with relatively short suspension—8.5 inches of fork movement and 7.3 inches of rear-wheel travel. For Six Days riders, this isn't enough. In Special Test sections, in which speed is the primary consideration, at the very least riders need YZ-quality suspension. In other areas, the ISDT riders concentrate on detail improvements to personalize the bikes; there are only a couple of the very fastest riders who need more power.

The IT250 is annually gaining Six Days-proven refinements. The E-model engine has received some important yet subtle changes which add to its already high-quality design. Yamaha has changed their method of casting cylinders. Previously, Yamaha would use a sand casting to mold the cylinder, with the sand occupying the space for the piston and the port areas; then they would press in an iron cylinder liner. This production method sometimes led to a mismatch between the liner's port holes and the cylinder's port holes. Now Yamaha is casting the aluminum cylinder around the iron sleeve. The sleeve has protrusions which occupy the space which will become the ports, a method resulting in precise alignment.

There are also some changes in the actual port design. The number-two transfer ports (those nearer the rear of the cylinder) are now aimed straight across the piston crown instead of upward, and the main transfer ports also enter the cylinder at a more horizontal attitude than before. These two alterations redirect the flow of gases along the top of the piston rather than above it, a flow which provides better scavenging. The exhaust port is typically Yamaha—large, and it empties into a relatively small-diameter pipe. On the intake side, the very wide port matches up to the six-petal reed valve. Also, there is a fifth transfer above the intake port which allows the charge trapped between the intake port and the reed block to enter the cylinder. The metal band between the intake port and the fifth transfer serves a couple of functions: it ties the rear cylinder wall together a little more securely, which gives the cylinder better dimensional stability; and it provides a bit of additional support for the rear piston skirt, which wasn't too well-supported before and has been further compromised by the new, and necessarily wide, intake port that couples to the huge reed cage.

Another subtle variation has been made in the cylinder head. Until recently, Yamaha was a great believer in symmetrical combustion chambers. Now they've moved the chamber itself back toward the rear cylinder wall, a move which does two good things. First, the rear-set pocket is good for scavenging flow—the mixture streams shoot right up into the pocket, and the pocket serves to send them smoothly down toward the exhaust, a pattern which is better than having the flow bounce off a squish band. Second, the rear-set chamber equalizes thermal stresses on the piston. Fire shooting down the piston skirt at the moment of exhaust opening tends to overheat that side of the piston crown; moving the chamber back biases the heat input from combustion in the opposite direction and thus equalizes the crown temperature. As an added note, the repositioned chamber has not altered the compression ratio.

With the 1978 models, the trend toward ever-larger exhaust pipe diameters seems to have stopped. The E-model's pipe is the same as last year's; it's a standard up-pipe with a very effective silencer/spark arrestor. The five-pound combination muffler must be detached separately when the pipe is removed, and the muffler attaches securely by a sturdy rear mounting-bracket.

Only one minor update has been introduced in the 250E's 36mm Mikuni carburetor. There is now a main jet ring, which serves to keep the gas from sloshing all around when the bike is going over very rough ground. The carburetor still attaches to the six-petal reed valve *via* the rubber manifold.

Perhaps the most significant modification to the 1978 IT is the addition of the sixth gear. With the added gear the IT is now allowed the luxury of a stump-pulling first gear and road-racing top cog. To match the different internal ratios, a 14-tooth countershaft sprocket has replaced the D-model's 13-tooth sprocket. The shift fork and the shift cam have been refined to make shifting easier. Helical-cut gears are still used in the gearbox, and the power is transferred to the rear wheel by a #520 D.I.D. chain.

Other engine components have remained unchanged. Underneath the magnesium clutch cover resides a healthy-size, wet, six-plate, seven-friction plate clutch. A flywheel magneto generates current/voltage for the capacitor-discharge ignition system. It puts out 35/35W for the lights.

*Subtleties abound: the brake rod routes over swing arm; removable pins let rear wheel pull straight out.*

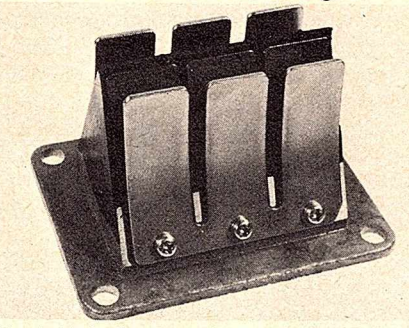
In all cases, engine performance was no less than excellent. Starting was never a problem: when cold, the engine needed two or three kicks with closed throttle to bring it to life, and when hot it needed only one kick with a fair amount of throttle.

Two words describe the powerband of the IT: deceptive and unusual. There was an abundance of low-end power in any gear. It would pull cleanly and evenly from just above idle. In tight trail situations this characteristic can really be used. The power became deceptive, however, in the mid-range. Suddenly the engine no longer felt like it was really grunting out power. Throughout the middle-rpm range the power was noticeably flat. Acceleration was there, to be sure, and the rider found himself clicking through the gears, but there was no overpowering sensation of torque or any blinding acceleration. At first, this led us to believe that the IT was simply slow. However, in an impromptu

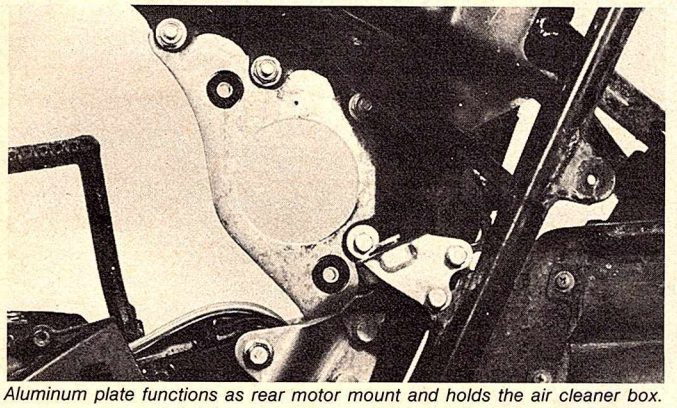
# YAMAHA IT250

drag race against a YZ250D, the IT pulled ahead in first through third gears, dropped back about a bike length in fourth and fifth and, thanks to its tall gearing, very slowly played catch-up in sixth. We began riding the IT hard, keeping it at peak rpm from the moment we let out the clutch in first gear. The IT is a hard charger and can be ridden as an all-out high-speed race bike if the rider is concentrating on keeping the revs up. But that deceptively torquey mid-range is always there, as is the very apparent strong low-end power to get the rider out of trouble when the revs drop.

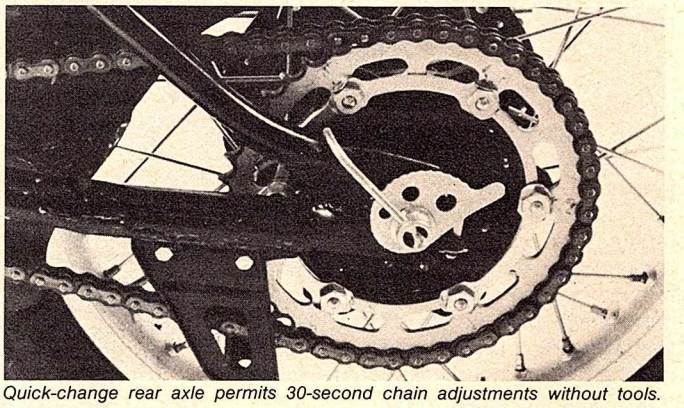
Certainly much of the credit for the clean-running engine must be given to the carburetion. Yamaha has refined the reed-valve induction system to get impressive horsepower-to-torque figures out of a 250cc engine. However, there is a powerband, and in this gear the bike will pull strongly from about 30 mph to 50 mph. This range is perfect for fast trail riding and will let anyone ride shiftless with a minimum of effort. Fifth and sixth are for very fast riding or fireroad cruising. On one asphalt highway entering Punta Prieta, we had the IT up to 85 mph in sixth and it was still pulling. Granted, this was on a paved road and with an approximate 10-mph tail wind. But it was also running on 80-octane Mexican Pemex gas.



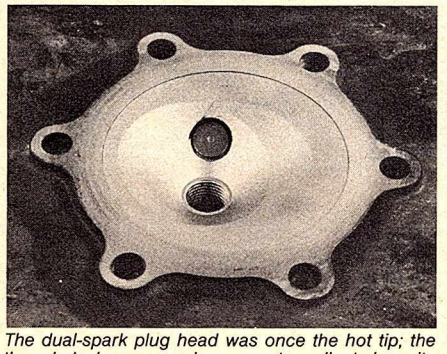
*Heart of induction system is the six-petal reed block.*



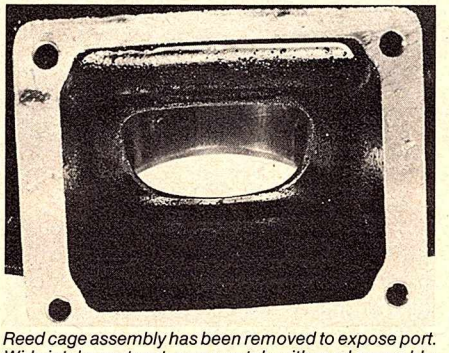
*Aluminum plate functions as rear motor mount and holds the air cleaner box.*



*Quick-change rear axle permits 30-second chain adjustments without tools.*



*The dual-spark plug head was once the hot tip; the threaded plug now only serves to collect deposits.*



*Reed cage assembly has been removed to expose port. Wide intake port mates accurately with reed assembly.*

price for the performance, paid for in relatively poor gas mileage: the IT consistently averaged 25 miles per gallon. This gave the rider an 80-mile range before the bike was turned on reserve. This compared unfavorably with one of the Baja bikes, a Honda MR250, which covered the same territory and averaged 35 mpg.

Throughout the 850-mile, six-day test, the gearbox and clutch made life easy for the rider. Yamaha obviously spent much time on the internal gear ratios' relation to the final drive gear ratio. First through third are fairly low, encouraging the rider to use the bike's abundant low-end power. Fourth gear is the rider's first opportunity to really use the bike's overall

On paper the IT's chassis design is straightforward. Its double-downtube frame is tubular steel, as is the swing arm. Below the gas tank, the backbone is very large in diameter in order to encase the monoshock. One interesting feature on the E-model 250 is the aluminum plate which does double duty as the rear motor-mount and as the air-box support. This intricate piece actually functions as part of the frame, and there was undoubtedly much consideration given to frame wall-thickness and to gusseting in relation to this aluminum member.

A KYB oil/spring, leading-axle fork and a DeCarbon monoshock provide the bike's suspension. D.I.D. rims, with one rim lock in the front and two rim locks in the rear, each attach *via* 36 spokes to aluminum hubs. Front and rear, respectively, the IT uses 5.1-inch diameter and 6.3-inch diameter brake shoes. IRC tires are on both ends, a 3.00 x 21 Motocross and a 4.50 x 18 Volcanduro. Other features of the chassis include fork boots and quick-release axles.

The IT's specifications look standard on paper but belie a unique-handling machine. The old truism that more head angle results in greater high-speed stability is, in general, true. Recently, however, motorcycle manufacturers have begun to learn that chassis dynamics are more complicated than even their wildest nightmares envisaged. A multiplicity of factors influences a motorcycle's handling, so much so that certain factories are turning to computers to plot the course their designers' pens will follow. On the IT, a 31.5-degree head angle, 5.59-inch trail and 56.3-inch wheelbase result (the truism has it) in loads of straight-line stability and only marginally good steering. Wrong. The IT turns and slides precisely with only minor adjustments in seating and throttle. In very tight cornering situations, the bike is not as nimble as it might be, given less rake, wheelbase,

trail or a combination thereof. But for basic woods and cross-country riding, it is excellent. In a straight line, it is very stable—up to 55 miles per hour. Then it develops a slight wobble in the front end which becomes worse as the ground gets softer. In deep sand at about 75 mph—a common situation in Baja—each handlebar end moves back and forth a solid four inches.

There is an obvious adjustment to be made on the IT: raising or lowering the fork legs. Just over two inches of each leg protrude above the top triple clamp; an adjustment of less than an inch will greatly affect the head angle and consequently the cornering and stability. After some experimentation, we returned the legs to the stock position, as this offered a suitable compromise in both areas. Also, most of our riding was done at below 55 mph; further, even when the bike wobbled at speed, it was not a frightening wobble, just a noticeable one, something akin to the initially frightening heave of a ship in rough seas.

We were not disappointed in the IT's suspension. But if we had to side with someone in the argument over the benefits *versus* liabilities of long-travel suspension, we would back the Yamaha Team riders. The IT simply didn't have enough travel. The fork's damping and spring rate were fine for our riders (150 pounds to 175 pounds), but we bottomed the front end again and again regardless of their smooth operation.

We like the forward-axle design for several reasons. First, this design moves the mass of the fork tubes and sliders back closer to the steering axis, which reduces the amount of steered-mass inertia. Next, with a forward-mounted axle fork, the fork tubes and sliders can be extended, providing for more tube/slider bearing area, which in turn results in less stiction. Finally, with enough fork length, even the typically poor-quality Japanese spring materials can be made reliable. All springs have the same rebound qualities. The difference between high-quality springs and poor-quality ones (given springs of equal wire diameter) is that better springs will take higher stresses without collapsing. Increasing the length of a spring effectively results in increasing its ability to absorb more stress without collapsing. A forward-axle fork allows the use of longer springs.

*(Continued on page 64)*

Make and model ..... Yamaha IT250E
Price, suggested retail ..... $1498

ENGINE
Type ..... Two-stroke, single cylinder, air-cooled, six-petal reed-valve induction
Bore and stroke ..... 70 x 64mm (2.76 x 2.52 in.)
Piston displacement ..... 246cc (8.36 cu. in.)
Compression ratio ..... 7.8:1 (trapped)
Carburetion ..... 1; 36mm slide-throttle Mikuni
Exhaust system ..... Single upswept with silencer/spark arrestor
Ignition ..... Capacitor-discharge, reverse-voltage triggered, magneto
Air filtration ..... Oiled, washable foam
Oil filtration ..... None required
Bhp @ rpm ..... 26.11 @ 7500
Torque @ rpm ..... 18.52 @ 7000

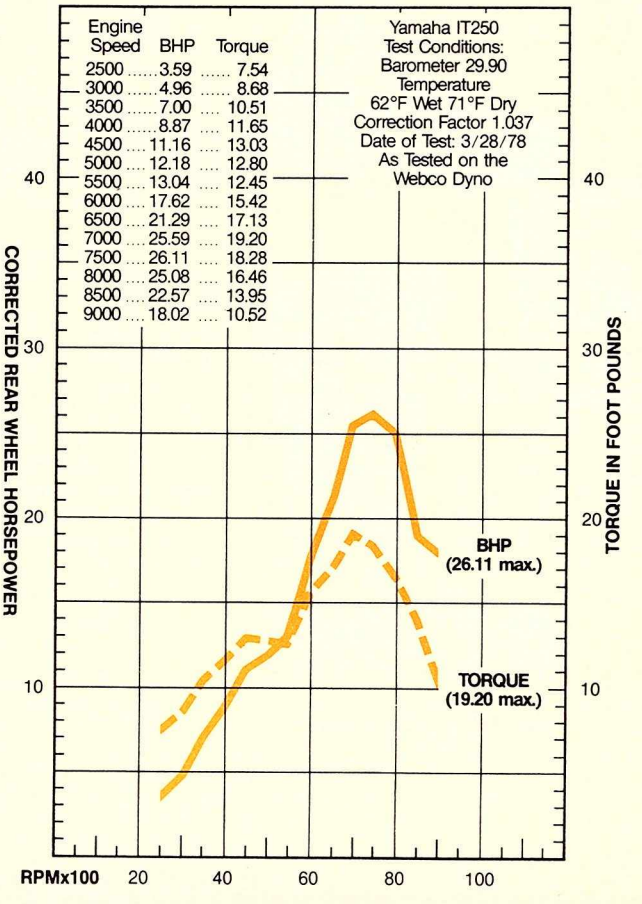
TRANSMISSION
Type ..... Six-speed, constant-mesh, wet-plate clutch
Primary drive ..... Helical-cut gear, 64/24, 2.66:1
Final drive ..... #520 chain, 46/14 sprockets, 3.28:1
Gear ratios, overall ..... (1) 2.714 (2) 2.067 (3) 1.600 (4) 1.261 (5) 1.050 (6) 0.917
Oil capacity ..... 1100cc

CHASSIS
Type ..... Double-downtube, full cradle, leading-axle fork, monoshock rear suspension
Wheelbase ..... 1430mm (56.3 in.)
Rake/Trail ..... 31.5°/142mm (5.59 in.)
Brake and hub, front .. drum, cable-actuated, double-shoe
rear ..... drum, rod-actuated, double-shoe
Wheel, front .. DID shoulderless, 1.60 x 21, single-rim lock
rear .. DID shoulderless, 2.15 x 18, double-rim lock
Tire, front ..... IRC 3.00 x 21 Motocross knobby
rear ..... IRC 4.50 x 18 Volcanduro knobby
Seat height ..... 889mm (35 in.)
Ground clearance ..... 241.3mm (9.5 in.)
Fuel capacity ..... 12 liters (3.2 gallons)
Curb weight, full tank .. 124 kg (275 pounds) with full tank
Suspension, front ..... Telescopic fork, oil/spring
rear ..... DeCarbon monoshock

ELECTRICAL
Headlight beams, high/low ..... 25w/25w

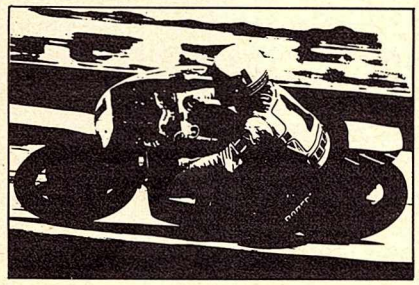
INSTRUMENTS
Includes: 100 mph speedometer, odometer, trip meter

CUSTOMER SERVICE CONTACT
Yamaha Motor Corp., U.S.A.
6600 Orangethorpe
Buena Park, CA 90620
(714) 522-9444
Attn: Customer Services



HI-POINT

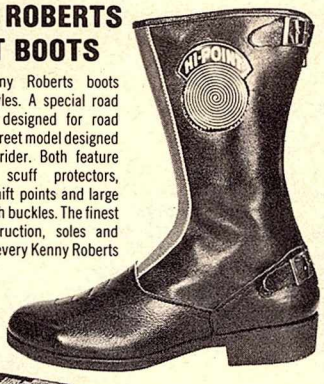
KENNY ROBERTS
ROAD BOOTS

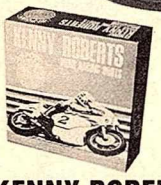


*Kenny Roberts, 2 time Grand National Champion and National Road Race Champion. When it comes to road racing, Kenny is the undisputed King. Kenny designed these new boots for Hi-Point and came up with a new standard in motorcycle boots. He incorporated innovations never before seen in a racing boot. Kenny rides with you every time you put on his boots.*

**KENNY ROBERTS STREET BOOTS**

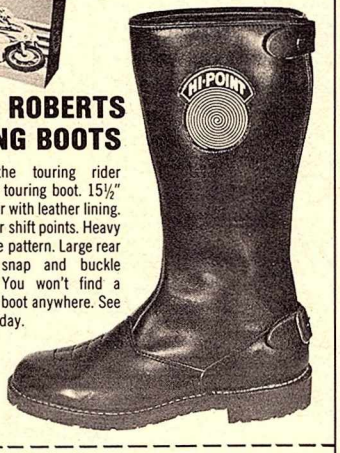
These Kenny Roberts boots come in 2 styles. A special road racing model designed for road racing and a street model designed for the road rider. Both feature built-in toe scuff protectors, padded gearshift points and large rear zipper with buckles. The finest leather, construction, soles and styling go into every Kenny Roberts boot.



**KENNY ROBERTS TOURING BOOTS**

Features the touring rider demands in a touring boot. 15½" tall, soft leather with leather lining. Padded at gear shift points. Heavy duty tread sole pattern. Large rear zipper with snap and buckle combination. You won't find a better touring boot anywhere. See your dealer today.




Enclosed is $6.95 for Kenny Roberts "T" shirts.

☐S ☐M ☐L ☐XL allow 4 weeks for delivery.

Name _____

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*Mail to Hi-Point Racing Products, 3709 W. Erie Ave., Lorain, OH 44053.*

**YAMAHA IT250** ..... *Continued from page 63*

The DeCarbon monoshock performed in basically the same manner as the fork: damping was fine but more travel was needed. During our Baja testing, moreover, our rider was carrying a 52-pound pack and six extra pounds of tools. All total, he and his gear weighed 234 pounds. He bottomed the bike's rear suspension constantly. But before you say that you don't weigh anywhere near that much, consider this. With all that gear on his back, his riding speed was, needless to say, somewhat reduced. Still, it bottomed. And on two days when he rode *sans* pack, at a somewhat increased trail pace, he still noticed frequent bottoming. The IT has adjustable pre-load and damping; they both help but don't make up for the bike's limited suspension travel. Fortunately there are many interchangeable parts from the YZ which can give the IT significantly longer travel.

A direct result of the IT's travel is its amount of ground clearance: 9.5 inches. The bike never had a problem scraping its underside on the terrain. However, there is a connection between ground clearance and footpeg height, and in this area the IT has a problem. The IT's pegs are 11.5 inches off the ground; compare this with, for example, a YZ125, which has a footpeg height of 14.5 inches. The low footpegs caused trouble only in areas with many bushes. But in these areas, bushes would grab a rider's foot.

Both brakes on the IT are excellent: they are very progressive and require only a light touch to operate. Tires provide good traction in sand or mud, and on hard ground they slide easily and controllably.

There is one final fact regarding the IT—its weight—which cannot be ignored. Full of gas, all 3.2 gallons of it, and equipped with a fairly complete tool kit, the IT weighs in at an undeniably portly 275 pounds. In the IT's defense, it doesn't *feel* that heavy. In all of our testing time, the bike did not fatigue the rider. But weight is weight, and all those pounds make the best argument for buying an IT 400 (which weighs only four pounds more) instead of the 250.

Details on the IT are generally utilitarian and often clever. The hand grips are hard but pretty comfortable. The wide levers are especially easy on the hands. A particularly noteworthy item is the air-cleaner positioning: it is easy to get to, a cinch to remove and provides very effective sealing. The stock aluminum skid plate is large and tough. Though the stock lights are pitifully weak compared to any standard halogen light (which is absolutely necessary for nighttime riding), the stocker will cut an adequate yellowish path out of the night blackness. Wide fenders do a good job of keeping mud and water off the rider. A simple thing, but one which manufacturers often overlook, is the front brake cable routing; the IT's is simple and functional. Both the shift lever and the brake pedal have fold-back tips which reduce the chance of breaking a lever in a crash. Slotted footpegs, another Six Days' refinement, serve to eliminate mud build-up. Lastly, in the area of details, the chain tensioner is a model of efficiency; it kept the chain taut throughout our test ride and showed no signs of wear.

The IT had power for every situation—from lugging up steep, rocky hills to gratuitous, chest-on-the-tank, dry-lake speed runs. The suspension was limited, but the bike was still comfortable and could be ridden hard and fast with no fear of the bike taking some unprovoked side trip; its bottoming was expected. Reliability, in every way, is exceptional.

Against the competition, the IT is first-rate. It may have less suspension travel than a KTM, but the IT is easily modified in that respect. And, at $1498, it is priced to be competitive with vastly inferior bikes.

In six days and 850 miles of Baja testing, the IT never let us down. During that time, we tightened the spokes, oiled and adjusted the chain, kept track of all the nuts and bolts, and checked the air cleaner. That was it. The IT didn't suffer any flat tires; it didn't lose any parts; it didn't break in any way. We didn't even change a plug. ◉

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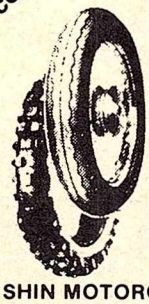

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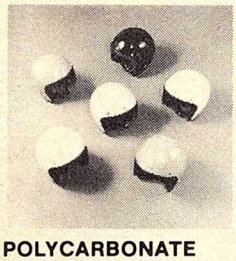

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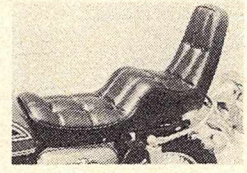

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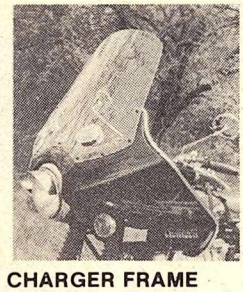

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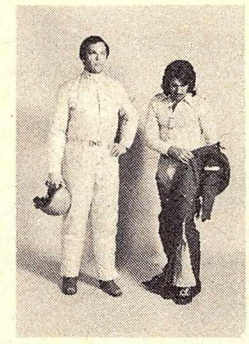

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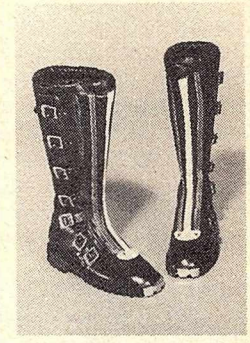

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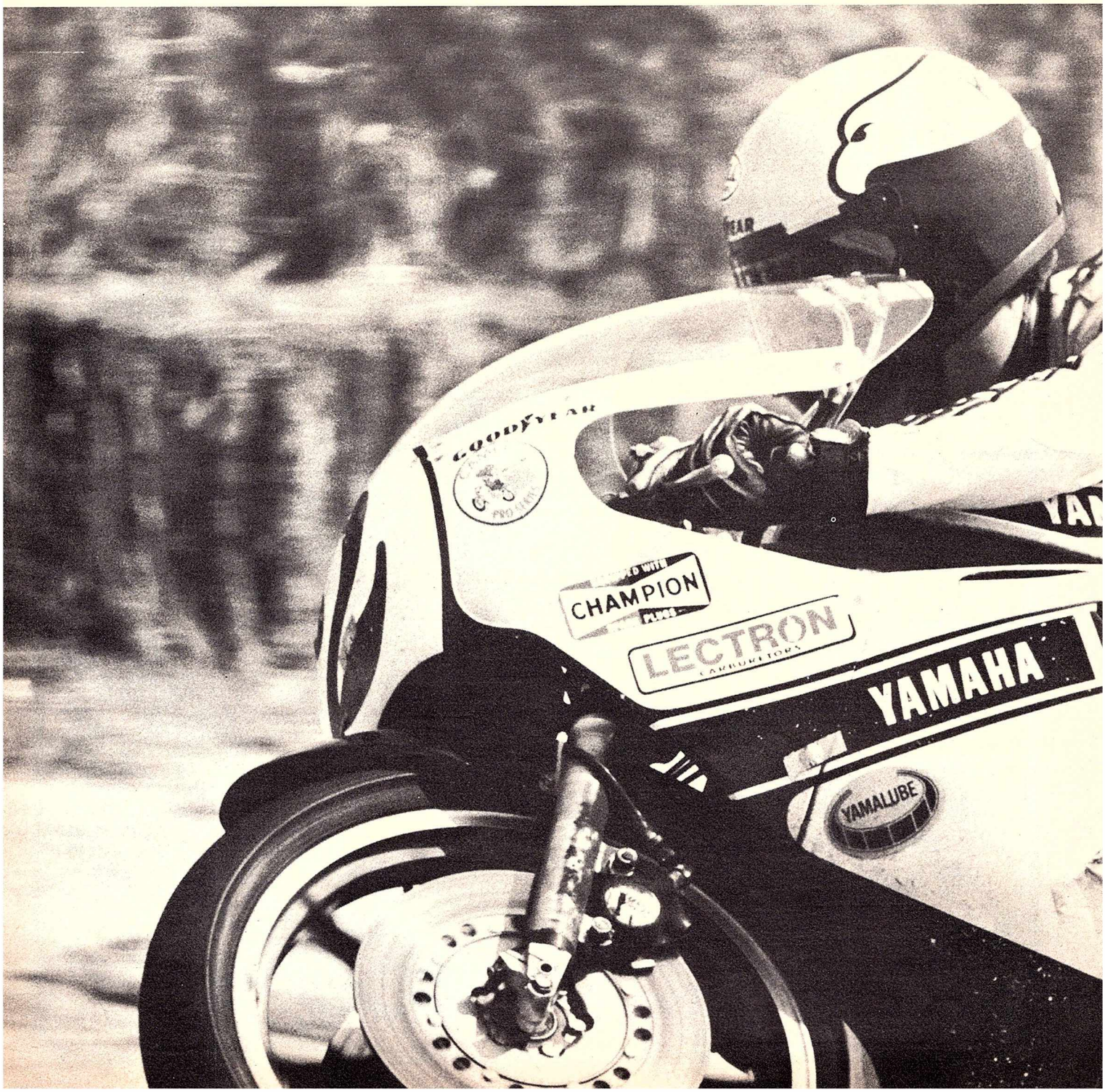
● IT WAS BY FAR THE CRUELEST DAYTONA IN memory. The difference between the fast riders and the slow has never been more surgically defined; the gap between the fast bikes and the slow never more painfully pronounced; and the chasm between those with technological connections and those without never more devastatingly apparent. By the twenty-first lap, Kenny Roberts was running in the top ten in two positions: first, and tenth. He occupied positions one and six on the thirtieth lap, and on the fiftieth, after lapping Johnny Cecotto, the Roberts finishing order was final: first and second. He had lapped everyone in the field except himself. It had been a one-man show from the beginning: Roberts led every lap except the third one.

His win left many with a sense of satisfaction and fulfillment. He would leave the United States shortly after Daytona, going first to Venezuela for a World Championship round, then to England for the Match Races, and on to the Continent for a season in pursuit of the 250 and 500 crowns. He had never won the Daytona 200; for his years of toiling in this country, a Daytona victory was necessary if a certain symmetry, a sense of completeness, were to be achieved.

But Daytona has never responded to careful planning—at least not for Roberts. He said a week before Daytona began, "There doesn't seem to be any strategy that works. Either you finish, or you don't finish. It's not a balls-out race course, and it's not a sit-back-and-wait course either. I'm going down there this year for a vacation, gonna run around in practice some, and I'm gonna get out there and *race*. I'll play it by ear based on how the motorcycle's doing at the time, get behind whoever's in second, and then I'll see what happens."

If the tenor of the Roberts camp before the 200 suggested all controllables had been controlled, all adjustables had been perfectly adjusted and nothing remained except to see how it would turn out, that was not the situation out in the sheds. A

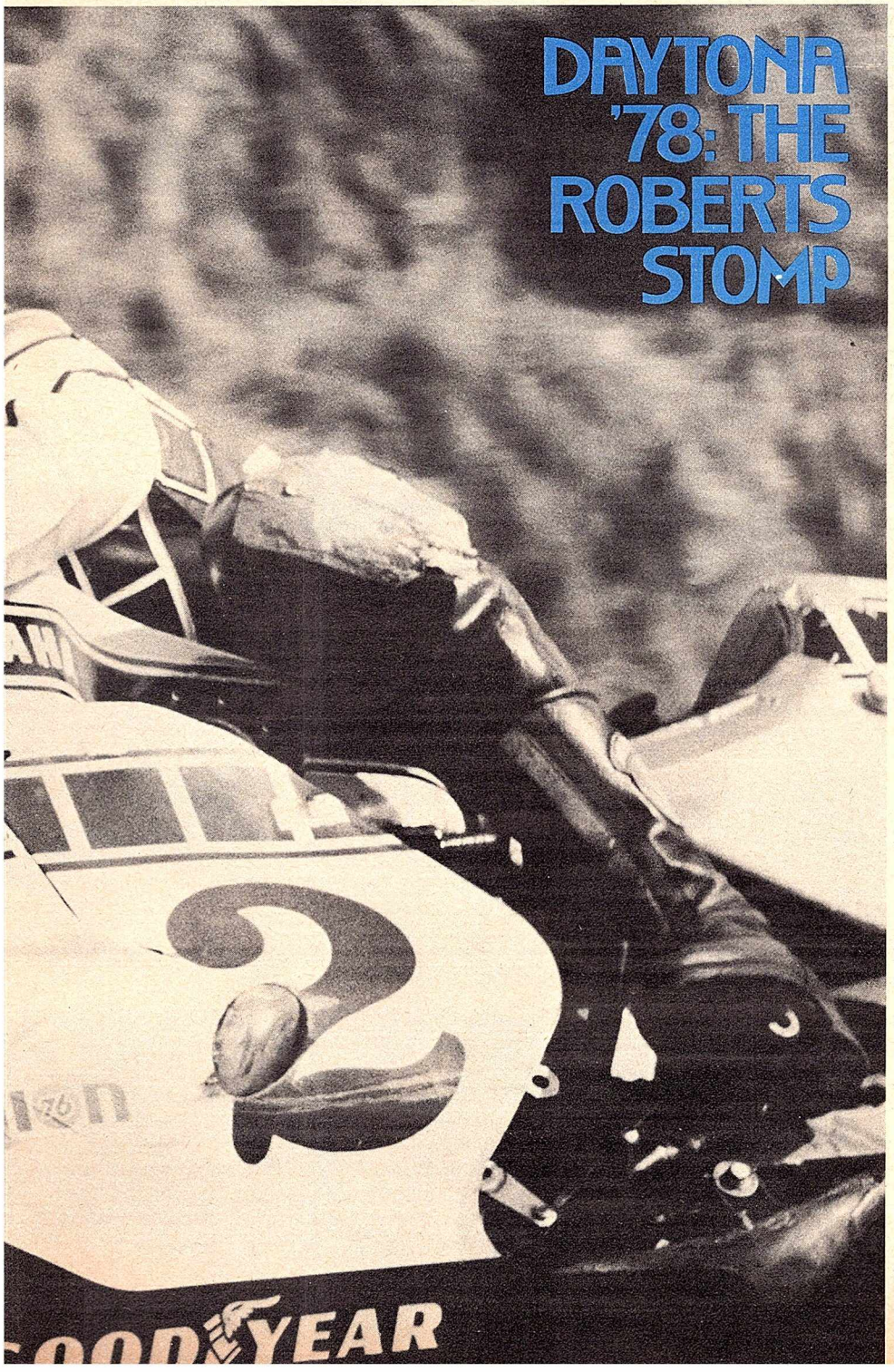


few privateers were tucked in comfortably—Dale Singleton, Mike Baldwin, Ron Pierce—but elsewhere confusion and despair were predominant.

The central issue, of course, was the new carburetor restrictor rule. [*For a complete explanation, see Kevin Cameron's technical feature, page 84.*] There were good restrictors and bad ones, and restrictors which were both, depending on what day of the week it was. And there were hardly enough days. Monday and Tuesday were clear and fine, but Wednesday's Amateur events were rained out; it rained again Thursday, and while the weather remained acceptable for the rest of the week, events scheduled originally on the rain days had to be shoehorned into subsequent time periods ordinarily given over to 750 practice.

The line of demarcation between the Haves—Roberts, Aksland, Cecotto, Baker and Pierce—and the Have-nots—everybody else, except maybe Baldwin and Singleton—was drawn deep and black during qualifying Friday and Saturday. Roberts, out early, gunned up a qualifying speed of 111.27 mph (2:05.2), and to no one's great surprise, bagged the pole. Cecotto (riding for the Yamaha factory) was about a second slower, as were Baker (2:06.5) and Aksland (2:06.7). Singleton sat on the outside of the front row with a qualifying time almost three seconds slower than Roberts', and Mike Baldwin, on the inside of the second row, found himself more than four seconds adrift, some of which resulted from his Yamaha's running out of fuel 400 yards the wrong side of the finish line.

What the Haves had, in the minds of many, was front-line restrictor technology. Not a single pair of unauthorized eyes got a look at the good restrictors, but the bikes so equipped were to finish in positions one through four (one through five, had not Baker's bike ground to a halt while he was running safely in second). Behind these fast men on fast motorcycles came a speed gap more pronounced than ever before.




# DAYTONA '78: THE ROBERTS STOMP

Against a backdrop of disillusionment and despair, Kenny Roberts ended his American racing career by lapping the field in the fastest Daytona 200 ever.

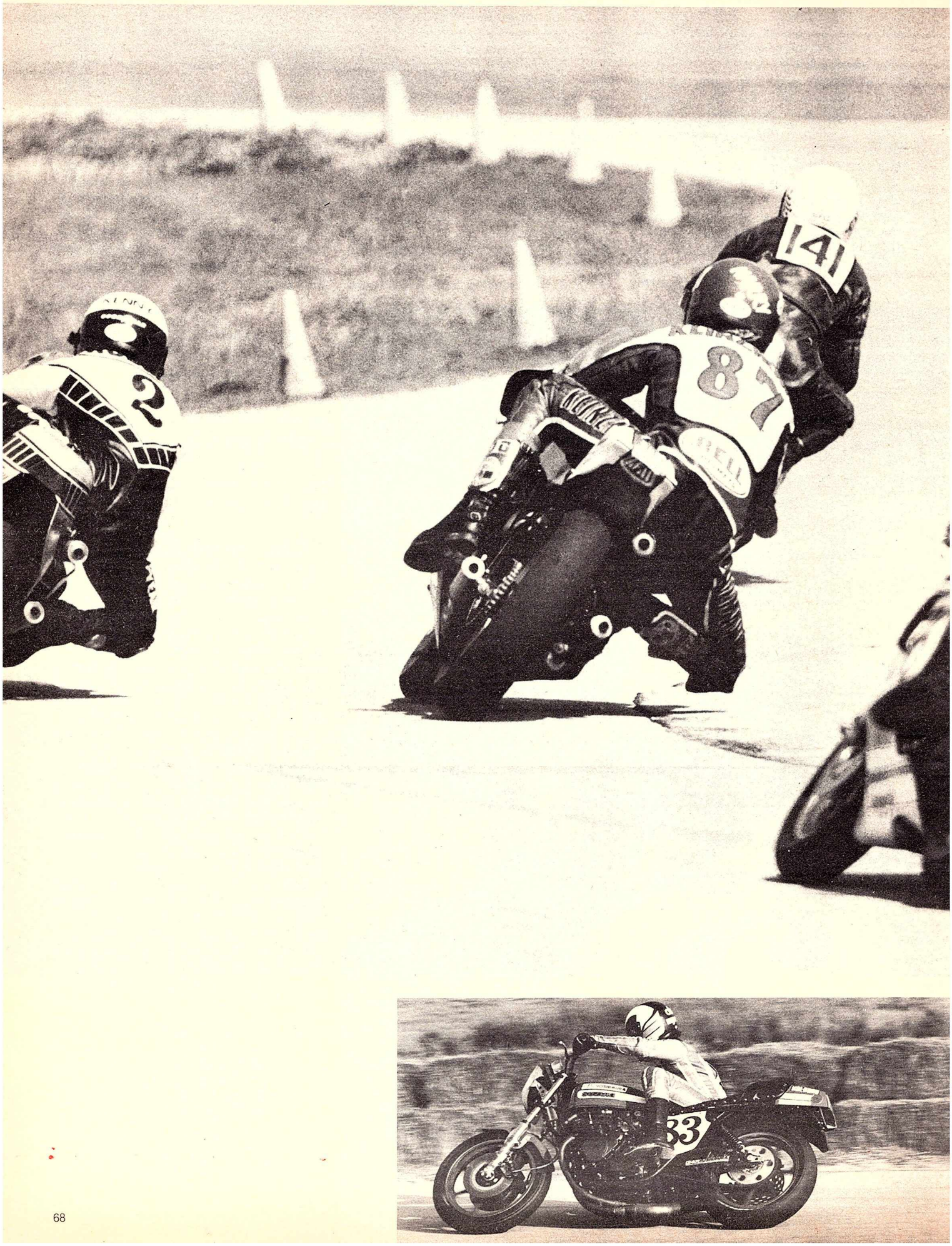
By Cook Neilson and Phil Schilling

Daytona 200 fields have recently been composed of fast Americans, fast Europeans, medium-fast Europeans, medium-fast Americans, and slow Americans—in that rough order. The fast Europeans began coming to Daytona in 1975 in response to two elements. The first element: Giacomo Agostini signed with Yamaha in the fall of 1973 and rode to victory at Daytona in the spring of 1974. He brought with him the attention of the European motor press; when he went home with Daytona's head on a pike, the 200 suddenly became, in the European view, a legitimate event. The second element, of course, was the 200's status as an International Formula 750 event, and in 1977, the first leg of a money-rich mini-series, funded by AGV Helmets, which also included Imola and Paul Ricard.

Between 1975 and 1977, all European road racers, qualified by their abilities to come to Daytona, had done so—at murderous expense, and without a great deal of success. That in itself would have been enough to reduce European interest in Daytona. But when a decision was made not to pay start money (prize money was extended to the bottom of the field instead), Daytona lost its Formula 750 sanction—and with it the attendance of a number of fast European road racers. Among those who did not come were Christian Sarron, Michel Rougerie, Christian Estrosi, Philippe Coulon, Wil Hartog, Marco Luccinelli, Patrick Pons and Victor Palomo, five of whom were top twenty runners in 1977 and four of whom had qualified in the top ten.

With no fast Europeans and precious

PHOTOGRAPHY: DAVE HAWKINS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33

## THE ROBERTS STOMP

few medium-fast Europeans, there was no cannon fodder to fill the gap between the fast Americans and the medium-fast Americans. Across the unattended void, Roberts, Baker, Aksland, *et. al.* seemed more remote than ever before to this country's never-say-die privateers.

There were, of course, exceptions. Mike Baldwin has the ability to run at the front (which he demonstrated for all to see at the Invitational held in conjunction with the Long Beach Grand Prix a year ago). This year his talent was matched by his equipment—a fresh TZ750 E-model, complete with power provided by Baldwin and a friend of his with a dynamometer. Another exception was Dale Singleton, who began rounding into form at Loudon last season and looked good for the remainder of 1977's road race Nationals. Dale locates the beginning of his rapport with the big Yamaha at the beginning of 1977, the first year for the standard-issue monoshock rear suspension.

"When we were down here in 1977 " he said, "the bike was ridin' so smooth that I figured, shoot, it had to be slow. Then they showed me the trap speeds—178 mph! All of a sudden I realized, hey, it's a fast bike. Once we got to that point we started paying attention to tires—compounds and profiles. I didn't know anything about soft tires until we got to Sears Point. Before that, shoot, we'd put on anything. We've got good mechanics—Eddie Adkins and Melvin Terry—and the bike was real reliable all last year except at Riverside, where a pulser coil went out. Basically, I guess we've all learned a lot."

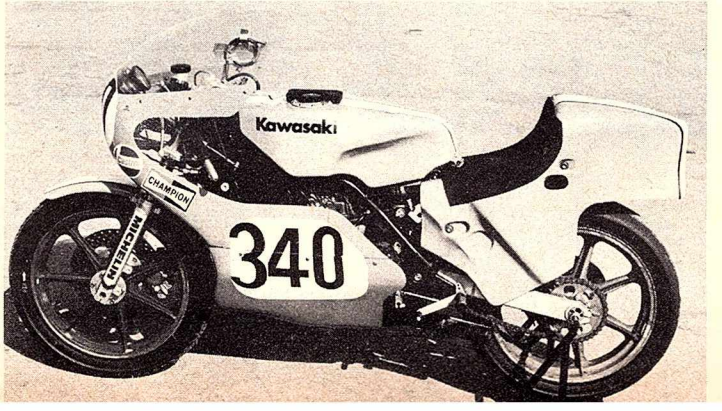
Ron Pierce found himself in the company of the Haves through his association with Bob Work. He would ride the Yamaha Motor Canada 250 Yamaha in the Lightweight race, and being able to park his TZ750 in the same room with Work made, he said, "all the difference in the world." Pierce, a few years back recognized as one of the best lightweight riders in America, has endured a spotty rapport with a succession of big bikes. With Work checking everything Ron did to his four-cylinder, Pierce qualified well and, the day before the race, expressed optimism and confidence.

There was little of that in the rented truck housing the peripatetic Australian Kawasaki effort. Tuner Neville Doyle and rider Gregg Hansford made a late decision to come to Daytona and attached their bike's lack of speed directly to the restrictor rule. Because the KR750 is a three-cylinder, it can suck fuel and air through 27mm orifices instead of the four-cylinder Yamaha's quartet of 23mm holes. But, explained Doyle, the relationship between rear tire traction and horsepower is everything. Unrestricted, the 750 KR's power was a match for the Goodyear 1705 tire, while an unrestricted TZ750 had more mid-range power than its tire could handle. Restrict both bikes, and the Yamaha still has acceleration power beyond the tire's ability to transmit it, but the Kawasaki suddenly finds itself with more traction than it can use and less power than it needs. To make up for it Doyle, who ranks with Kanemoto, Carruthers and Work in the supreme echelon of two-stroke tuners, had only the generous talent of Hansford. They both knew it would not be enough to offset a severe disadvantage in acceleration.

At least Neville knew what his situation was; a hundred yards away, in the Kanemoto garage, hopeless confusion, coupled with bottomless despair, was the tone of the week. Erv and Gary Nixon had spent considerable pre-race time at Daytona doing tire testing. Their 750s had run in excess of 800 miles then, without a hint of engine trouble. Came Speed Week and seizures rained down from nowhere—seven in all. Kanemoto sorted through all the cross-checks trying to ward them off, and still they kept coming. He changed carburetors, carburetor settings, fuel flow, float levels, compression ratios, spark timing figures, restrictor plates; the seizures did not relent during the week, and they did not relent once the racing started. Two years ago Erv built a very sophisticated quick-fill apparatus; it will be three years old before he'll have his first chance to use it at Daytona.

* * *

The situation was not nearly so grim among the Novices, once again Daytona's biggest class. But it may as well have been: Freddie Spencer, a sixteen-year-old from Shreveport, made the rest of the runners look like *they* had restrictor plates. He ran up a whopping margin on second-place Dan Chivington—and the rest of the field. Spencer, a four-year racing veteran with a string of pavement and dirt successes already behind him,



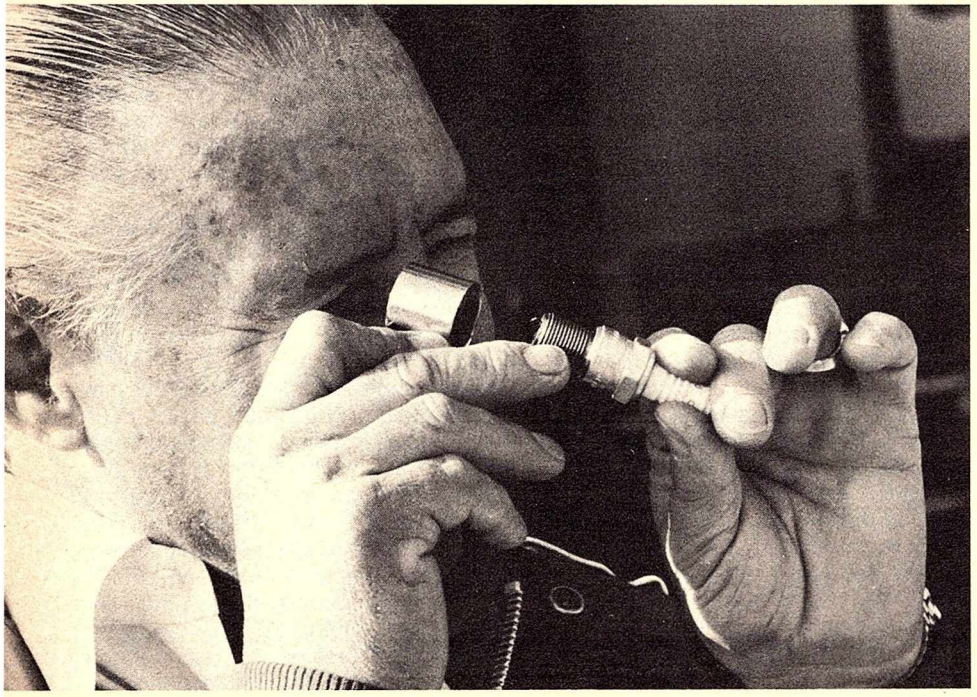

Kenny Roberts (#2, top) purely loves coming off the Daytona Chicane. Here he swoops John Long, Harry Klinzmann and John Samways. Steve McLaughlin (left) flew his Suzuki to an emphatic Superbike win; the works Kawasaki KR (right) of Anton Mang was third in the 250 International Expert race.

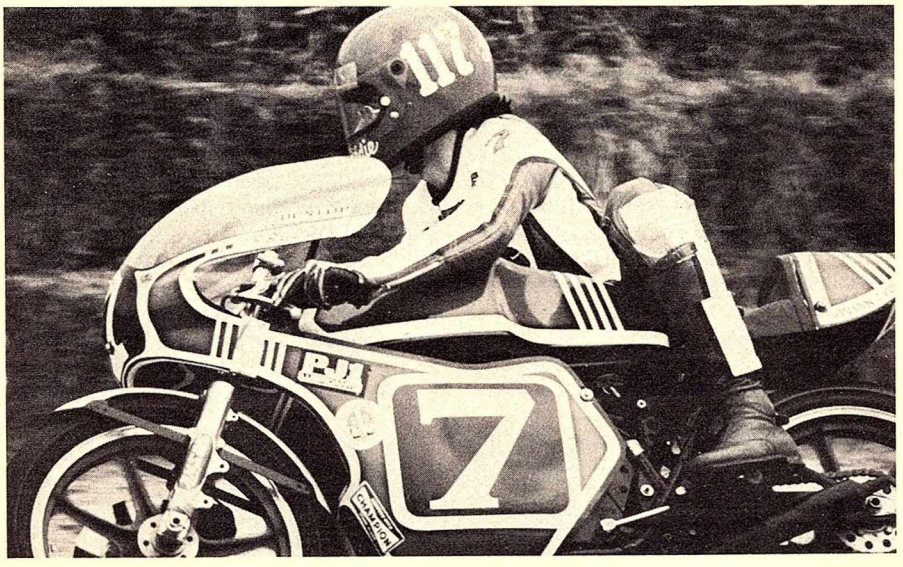
# THE ROBERTS STOMP

finally reached legal age for an AMA professional license. Spencer's reputation had long preceded him: in the course of 1977's East Coast club races, Spencer had even disappeared on the likes of Gary Nixon and Mike Baldwin. Articulate and track-wise, the Louisiana youngster is smooth, polished, consistent and fast; no heroic antics, no pitch-it-sideways, no plunging exits through straw bales. When other Novices were delighted to turn two-twenty-sixes in practice, Spencer had dipped into the twenty-fours.

On race day Freddie sparkled. His Yamaha, a good, front-line Novice machine tuned by his careful and hard-working father, wasn't some super-trick 150-mph weapon. But the Dunlop-shod twin was strong and reliable, and Freddie's talent needed nothing more. He blazed off a lap at two-twenty-one-and-change, opened a long lead and held it. "Whew," said one Novice old-timer, "that kid could have won it in '77 when he was fifteen, or maybe '76 when he was fourteen. When you're good enough, you can almost pick your year."

No one really doubted that Kenny Roberts could have picked 1978 to win the 100-mile Expert Lightweight event once again. Alas, fear of poaching kept the Kel Carruthers-constructed, 250cc Wonder-Weapon far from Daytona. Carruthers had worked for months, getting a Mighty Tiny Tee-Zee ready for the Grand Prix wars. Crated and Venezuela-bound at Daytona time, the motorcycle was just too good to risk having it claimed at Daytona. A refinement of last year's three-quarter-scale 250, Carruthers' handiwork produced a still lighter, more powerful 250. "Sixty horsepower on the dyno," Kel admitted cheerily. Indeed, the ex-250 World Champion may be as proud of this 250 as anything he's built. "It's beautiful; it's so damn good *I* could win the 250 World Championship this year with it!"






Champion Spark Plug's Bobby Strahlmann saw more than his share of distressed plugs, but even he could only help so much. Freddie Spencer, a 16-year-old Novice, didn't need any help at all.

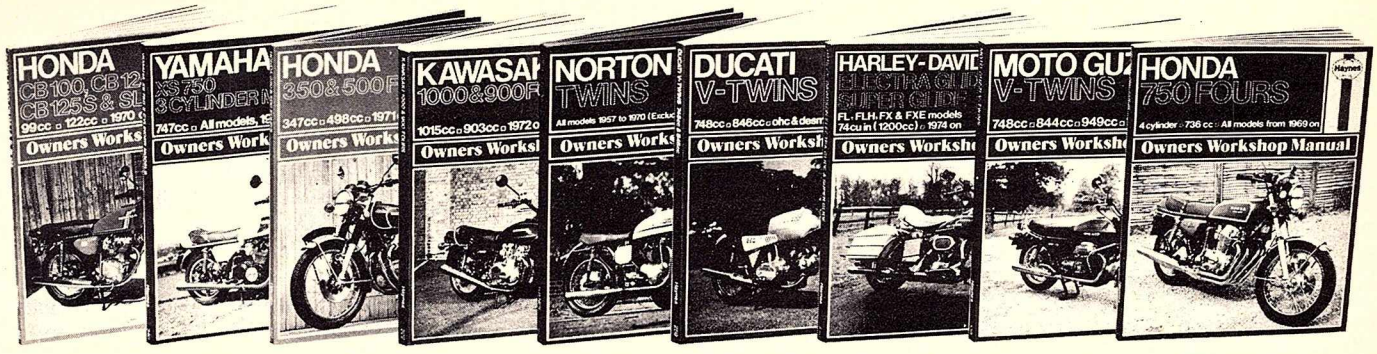
Present and accounted for was Bob Work's Yamaha Canada TZ250, another one of the original pocket-sized howitzers from 1977. Steve Baker won in '77; subsequently the bike accompanied the Baker-Work-Yamaha entourage to Europe. Any plan to run the 250 in Europe fell victim to team policies and politics, so after a brief practice outing at Raalte (Netherlands), the 250 went back into its crate, sat around Amsterdam for months and eventually came back for Daytona '78 where Bob Work pulled the top end, took a peek at things, pronounced all in order and buttoned up the engine.

On board was Ron Pierce, probably the most experienced and fastest 250 pilot generally available in the United States. And how did Work's bike compare to a standard TZ250? Much lighter: maybe 45 pounds under a stocker. Much faster: 10 miles per hour up on a 140-mph stocker. Any real soft spots? None. The bike could use a wider rim on the front and different triple clamps for a bit more trail. Was it competitive despite its year-in-the-box? Absolutely!

Over in Erv Kanemoto's garage resided two more super-competitive Yamaha 250s; one, Nixon's now-familiar lightweight, a low-boy that Kanemoto devised; and two, Randy Mamola's 250, a Kanemoto engine in a chassis built by Kenny Roberts' accessory company. Basically, the Kanemoto bike is calibrated to Nixon's riding style which includes steering the front end through corners. On the other hand, both the Roberts frame (K-R Racing Specialties in Oakdale, CA) and the Rob North frame (available through Don Vesco in El Cajon, CA) are near replicas of the Kel Carruthers-designed, Rob North-constructed chassis used last year by Roberts and Baker.

There were a fair number of these scaled-down Yamahas at Daytona. The fast guys all use midget TZs in one permutation or another, and of course there were plenty of down-fielders likewise equipped. The weight saving is important to normal racers even if they can't piece together an engine in the Carruthers/Work/Kanemoto league.

*(Continued on page 72)*

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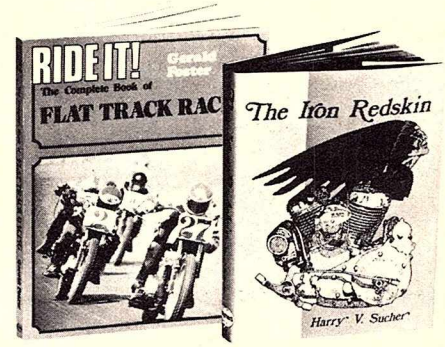


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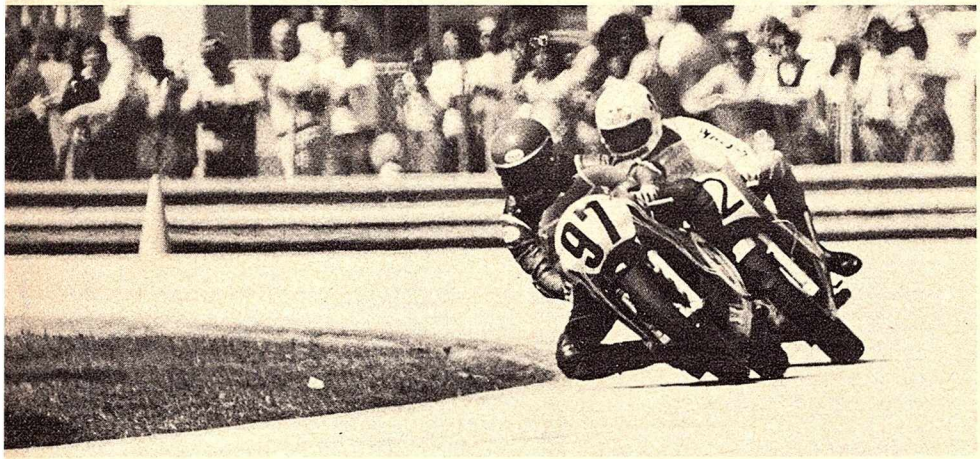
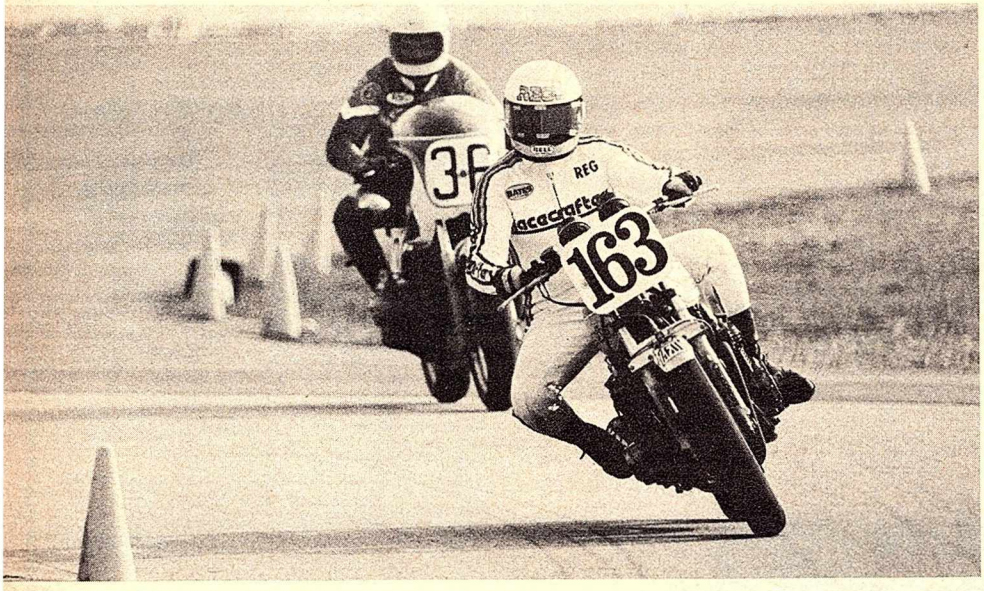
# THE ROBERTS STOMP

Aussie Neville Doyle can play in this league. He's the tuner/builder half of the Hansford/Doyle Kawasaki effort, and in the past couple of years, the Doyle-prepared KR250s have been spectacularly good. Despite some encouraging but short-fused results in 1975 and 1976, Kawasaki Motor Corporation here in the United States pensioned off its road racing program before the full effect of major running changes (180-degree to 360-degree crankshaft pairing) and detailed improvements (such as upgrading material specifications) were reflected in finishing results. So at Daytona outlanders carried the Kawasaki banner.

Hansford had a brilliant 250 ride in 1977, which ended when he ran out of gas late in the race. Back with the same 250 this year (their newest 250 had been sent to Venezuela), Hansford's chances looked good—despite the fact that Gregg weighs 180 pounds, more than offsetting any real weight advantage the 215-pound bike might have on the special Yamahas. By Doyle's standards the KR250 still takes a lot of work to get it competitive. "Because Gregg weighs 12½ stone, he's got to have an extra five horsepower just to cover his weight."

Anton Mang, the Grand Prix regular based in Germany, had the newest Kawasaki 250 in his garage. He also had Franz-Josef Schloegel, at one time Dieter Braun's mechanic, spinning the wrenches. The newest KR250 differed from earlier models run by the US distributor in several respects. The most dramatic is in the frame and swing arm. The swing arm is a monoshock unit that stands upright under the seat, forward of the swing-arm pivot-pin, and the upper member of the swing arm connects to the top of the shock via a pivot pin while the bottom of shock anchors to the main frame.




The week's two best duels pitted Pierce against Hansford in the 250, and Pridmore against Long in the Superbike race. Hansford and Pridmore emerged with a first and a second.

The KR250s are genuine factory bikes—tool-room exercises. Every part of them suggests that it's been machined from the solid. According to Doyle, the newest Kawasaki 250s have no more horsepower than units produced earlier; insiders, privy to the activities in Mang's camp, agreed: the European KR250 had benefited from Schloegel's labors.

One of the starting grid for the 100-miler, Ron Pierce seemed like the odds-on favorite based on heat-race results: Pierce had romped. Nixon's bike had appeared to be down in speed to the Bob Work TZ250, and Gary had fallen off in the infield horseshoe on the cool-off lap of his heat race. Mang and Mamola had been impressive but a bit off-pace. Gregg Hansford's Kawasaki wasn't quite competitive (running in the two-eighteens) though Neville Doyle reckoned a new ignition system would restore the bike's edge.

He reckoned right. Hansford was at full honk right from lap one of the final. Nixon scrapped with Hansford but not for long, as a seizure sidelined Gary almost immediately. Pierce soon hooked up with Hansford at the front, and the race-long battle for first was joined. At various times Pierce the Shadow ran behind, beside and ahead of Hansford the Leader—seemingly the connection could not be severed by either one.

Inside five laps Hansford and Pierce put six seconds on the field. Mang and Mamola were knotted together with Ted Henter and Miles Baldwin in an opening fracas for third. As this group began to stretch out over the first ten laps, Mamola took charge with Mang dogging right behind him. This became the match for third; while 15 seconds stood between them and the Hansford/Pierce duo by lap 10, Mang and Mamola had an eight-second margin on their pursuers.

John Long had come upfield to mix with Miles Baldwin and Ted Henter, but this threesome became a twosome along about lap 13 when Baldwin's Yamaha swallowed part of piston circlip and slowed down considerably. Long and Henter have ridden against each other so many times that both recognized their private battle would be settled sometime after Mile 98. For Europe-bound Henter, it was his easiest, most relaxed national race ever for a couple of reasons. Ted was running a stock Yamaha 250E; he had never taken the barrel off the bike. And Henter was content to race well below eye-bugging intensity, so long as Long observed the truce too.

Mamola had no such tacit understanding with Mang, and the struggle for third seemed far more earnest than the fifth-place dispute. For a while Mamola looked as if he might scrape the Kawasaki pilot off in the infield traffic, but he couldn't make Mang stick on slower jockies. The Kawasaki could simply out-pull Mamola in the infield even though Randy had geared

*(Continued on page 74)*

# Lapping it up with Yamaha

In this year's AMA Daytona 200, Yamaha ace Kenny Roberts ran a near perfect race. By lapping the 73 bike field. And then wrapping it up with a record 108.37 mph average.

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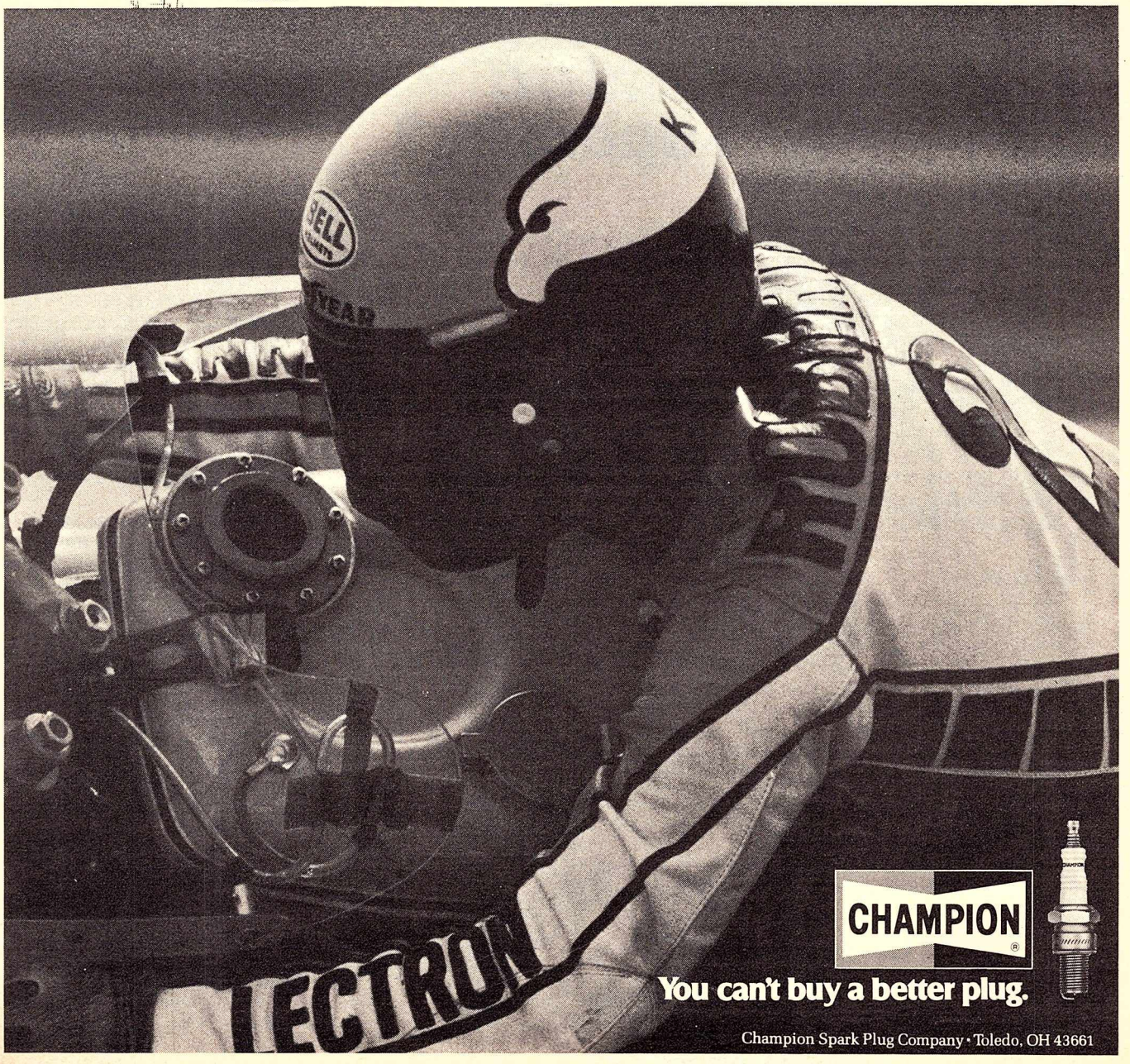

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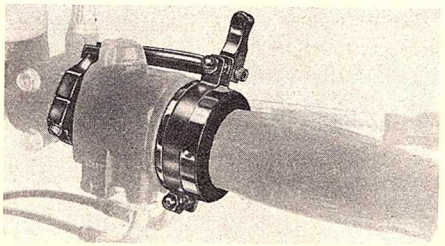

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his Yamaha a bit shorter for the final, trying to blunt the Kawasaki's infield advantage as much as possible. Troubled by a too-soft suspension, Randy had to rely more and more on his Kanemoto engine. "Had to use all of it to 12,000 rpm, and I just kept saying, 'Just don't seize on me goin' into a corner.' " As the miles raced by, Mamola figured he'd have to beat Mang on the final run-in.

Way up front, neither Hansford nor Pierce was having a trouble-free race. Pierce lost his rear brake in lap two. There was a suspicion that a faulty retractor may have caused a puck to cook, thus boiling the fluid and nixing the brake. Attempting to get some rear-end retardation, Ron tried to get what compression braking he could out the engine in order to steady the bike going into corners. Even then, it was dodge-and-go. About the eighth lap Ron couldn't slow enough for the infield horseshoe and got off the course.

That Ron could fashion a comeback in four or five laps suggested the potency of the Bob Work Yamaha. It also reflected the continuing difficulties of Gregg Hansford. The Kawasaki KR250 would miss its three/four shift with alarming regularity, putting a hesitant glitch in Hansford's exit from infield turns one and two. A couple of things seemed to contain the effect of this problem. Hansford's bike was a demon dragster—that's what KR250s do really well. More important, as a rider, Hansford rifles into corners harder than anyone in memory. Spectators get white knuckles just watching his approaches. And the distance he gains in late braking isn't paid back with sloppy exits; it's in hard and out fast on crisp, smooth lines. Given Hansford's atom-smashing velocity through corners, one hitch in the exit, relative to speed of surrounding bikes, didn't seem so great after all.

Though he might make up for the gearbox in the infield, a missed shift coming out of chicane was a different matter entirely for Hansford. The chicane-to-the-finish-line is a long drag race that, near the line, offers a possibility of pulling out of your opponent's draft and slingshotting past him at the finish. Missing the three-four shift would let Pierce pass the Kawasaki so quickly that Hansford couldn't quite get into the faster Yamaha's draft, and Pierce could get to the finish line first. On the five or six occasions that Hansford got fourth gear directly, the harder-accelerating Kawasaki had a chance to hold its advantage to the line—providing the Aussie led out of the chicane.

Hansford never had to face this touchy problem because Pierce's Yamaha ran out of gas in turn six, two laps from end. Engines, when used as brakes, consume more gasoline than otherwise. At least Hansford could sympathize with Pierce because Gregg had run dry in the 1977

*(Continued on page 76)*

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100-Miler. So for the Australian the last seven miles was cruise.

That wasn't true for Mamola, who planned on letting Mang lead out of chicane, draft him, get high the wall, swoop down the bank and past the Kawasaki. Randy made his bid, tapping his engine for everything. "I had a little more top end, but I was screaming the hell out of the engine." Result: Mamola, second; Mang, third place.

Then came yet another version of the High-Strategy, Low-Tricks Chicane-to-Finish Line Derby. On the last lap John Long and Ted Henter came out the infield and onto the back straight. The Henter plan: draft Long on the back straight, fire past John going into chicane, charge out of the chicane with a better drive and hope that Long, taken by surprise, could not quite stay in his draft.

But on the last lap Long went into one of his famous anti-passing weaves down the back straightaway, a kind of mobile theatre that's a cross between the Ali Shuffle and a chain-and-mace exhibition. Henter didn't get his passing done before the chicane where the bikes touched momentarily; already committed to his strategy, Henter passed Long coming out the chicane. "Too soon, Teddy, too soon," said John to himself, pulling into Henter's draft as he went by. At the last possible moment before the finish line—or on the first impossible one—Long ducked out of Henter's draft and came alongside. But nothing more. Apparently. Though it was a photo finish, the Speedway photographer had left his post so there was no photo. Consequently, three AMA judges made a unanimous sight-call at the line: Henter fourth, Long fifth. John's move had been just a little too late.

Few will ever remember who finished sixth (for the record, Jay Springsteen and his Harley-Davidson) because spectators saw so much genuine racing up-front. No one saw anything better all week, at least anything you'd care to call racing.

The separation between the Haves and the Have-nots in the Daytona 200 field was only slightly less evident in the Superbike Production class. From the outset it seemed preordained to be a four-cylinder race; rules changes made over the winter saw to that. Traditionally unwilling (or unable) to enforce the rules, the AMA simply changed them to reduce the number of areas in which creative cheating could thrive. Neither alternators, nor headlight bulbs, nor standard bodywork, nor standard muffler shells, were necessary. As a result the twin-cylinder fanciers found themselves with a sharply reduced number of individual advantages.

It's possible that the fours would have emerged supreme whether the rules had been tweaked or not. Kawasaki and Suzuki last season won Pocono, Laguna Seca and Riverside, with the Suzuki effort

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getting stronger and stronger as the season closed. The combination of a solid GS1000 chassis, Yoshimura engine development expertise and rider Steve McLaughlin looked to be irresistible for Daytona—and was. But not without a lot of hard work and a little good luck.

For the first time since the class's inception, there were enough entries to warrant not one but two preliminary heat races. Reg Pridmore, riding Racecrafters' Pierre DesRoches-prepared Kawasaki KZ1000, won his heat with little drama and no trouble, cruising around with 2:20 lap times. In the other heat Steve McLaughlin established a solid lead ahead of Wes Cooley, only to have the number-four connecting rod let go as the bike accelerated away from the chicane. What followed was extraordinary. In the painfully brief interlude between the heats and the Superbike final, the Yoshimura crew, orchestrated by Number One Son Fujio, removed the damaged GS1000 engine; disassembled it; removed the transmission; disassembled a spare short block; installed the gearbox from the broken engine in the spare; reassembled the hybrid engine; stuffed it back in the GS chassis; and wheeled it to the back of the grid, a position to which it had been relegated by its heat-race *contretemps*.

Wes Cooley, by winning the faster of the two heats, held the lead off the grid and opened sharply on second-place runner Shohei Kato, who was in front of Pridmore, John Long on Udo Gietl's BMW and Billy Addington riding his own Kawasaki KZ1000.

But the action was in the back. Using his bike's 159 mph (the highest speed ever recorded at Daytona by a Superbike) top end to full advantage, McLaughlin was storming upfield. He picked off Pridmore on the west high bank for second (Kato had dropped out with an ignition failure) and began reeling in Cooley. Using Wes's draft, Steve burst into the lead just past the start-finish line on the sixth lap. Wes passed him back going into Turn One the next lap, but by swinging up the inside, Cooley's KZ caught a rock right in the oil cooler. When Steve came out of the infield at the end of the eighth lap he was all alone—as he would remain for the rest of the race.

With the McLaughlin Suzuki safely in first (after passing 33 competitors), attention swung to the dice for second going on between Long and Pridmore. Long's BMW was clearly superior coming off the turns; Pridmore's bike, penalized by a set of carburetors which reflected a lot of research and not enough development and by a Goodyear D1705 rear tire which worked on TZ750 Yamahas but which turned out to be too hard for the KZ, had a distinct advantage in upper gear acceleration. The final resolution had Pridmore in second and John Long in third. Mike Baldwin's Reno Leoni-built Moto Guzzi,

*(Continued on page 84)*



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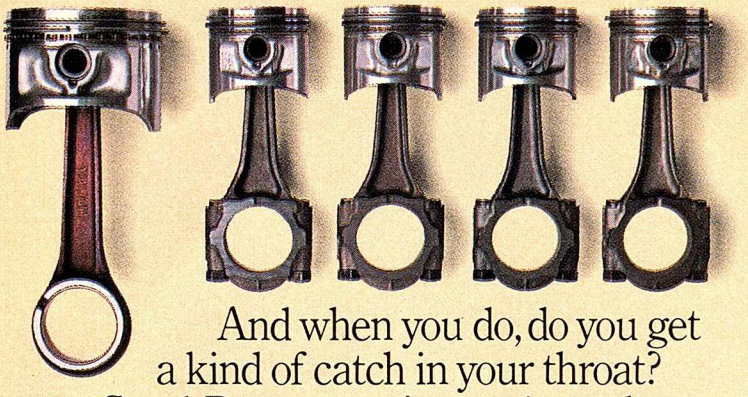

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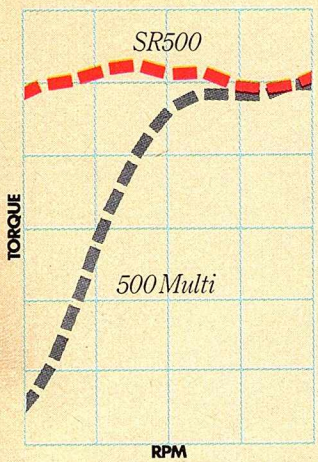


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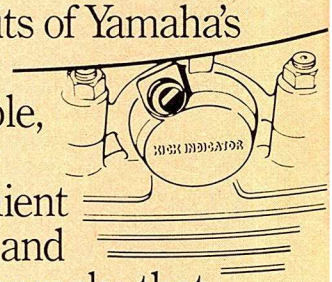


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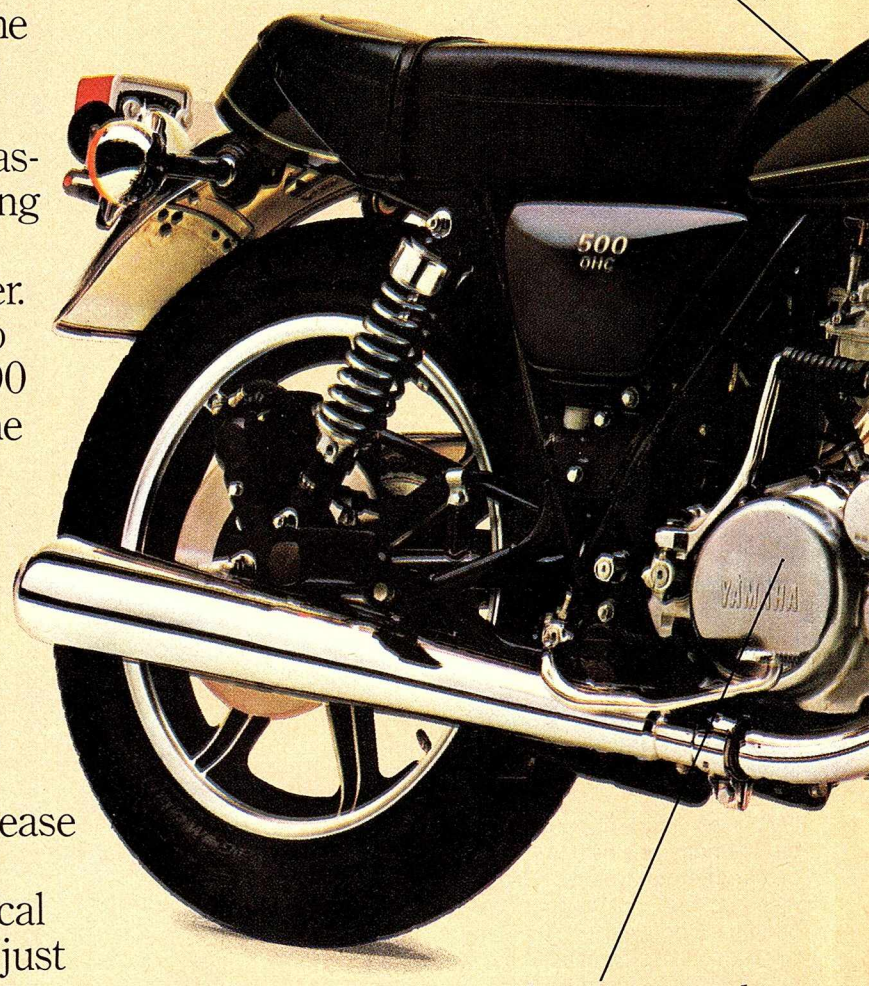


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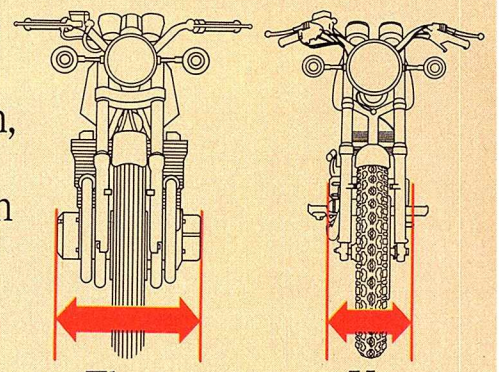

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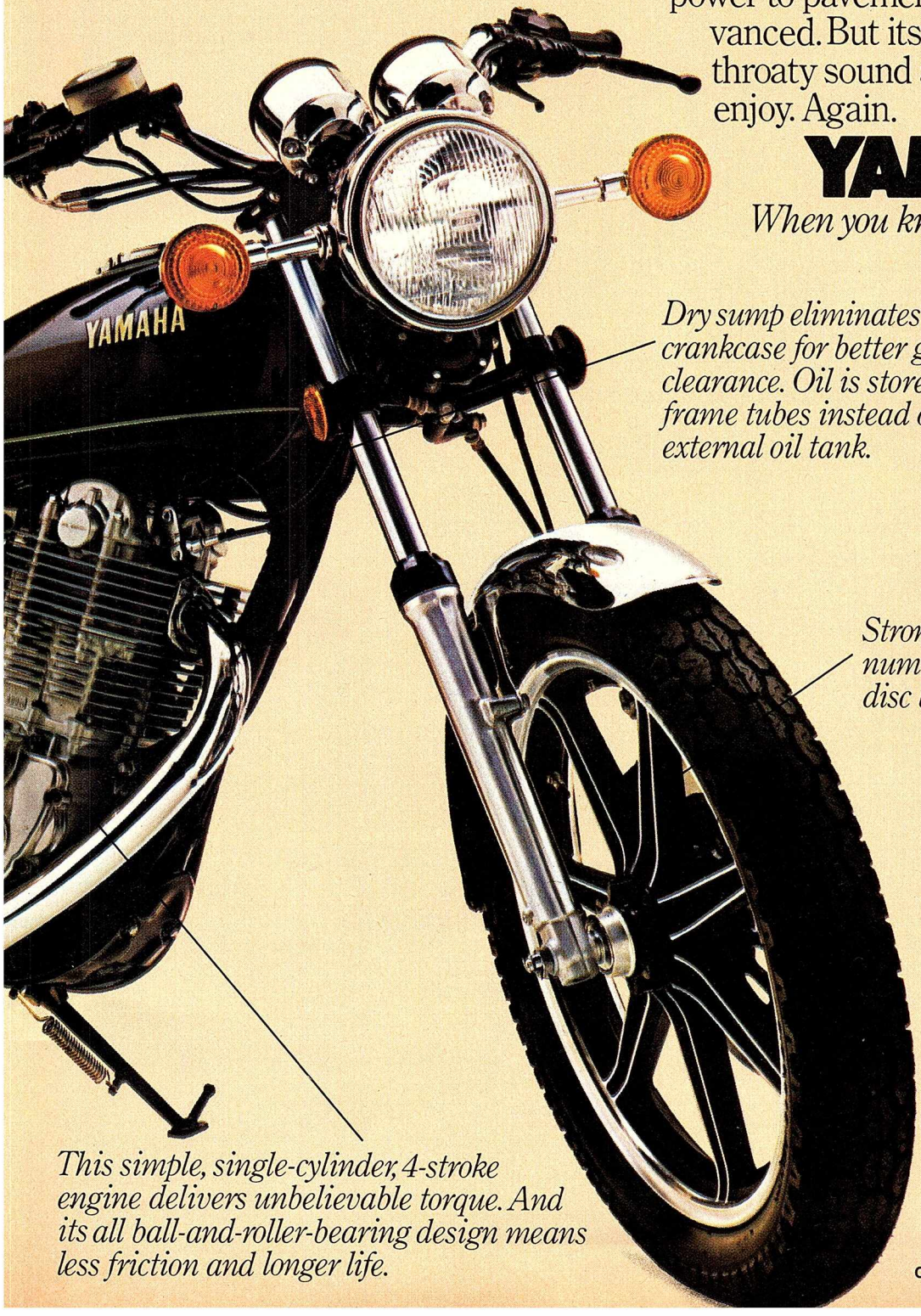


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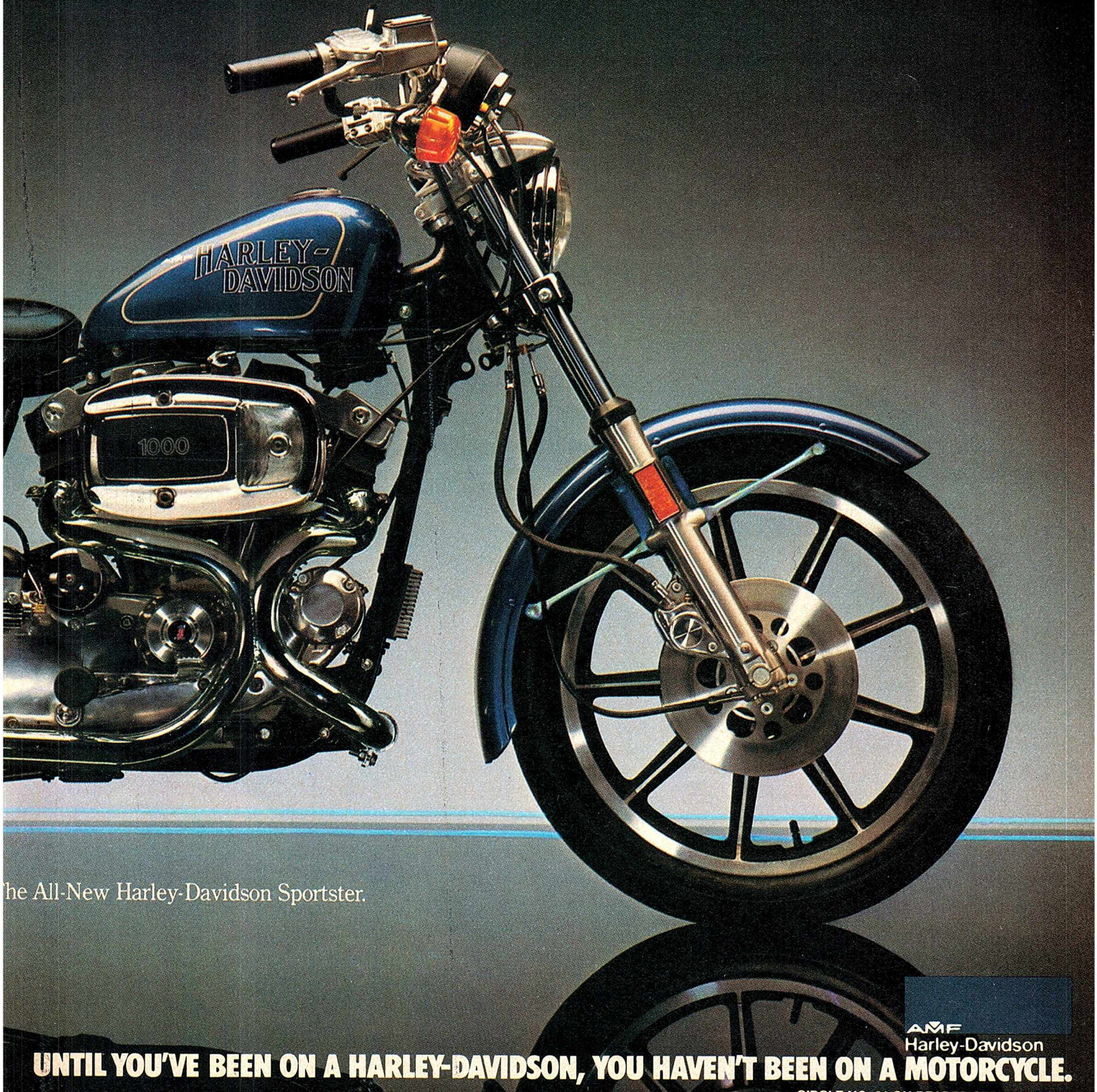


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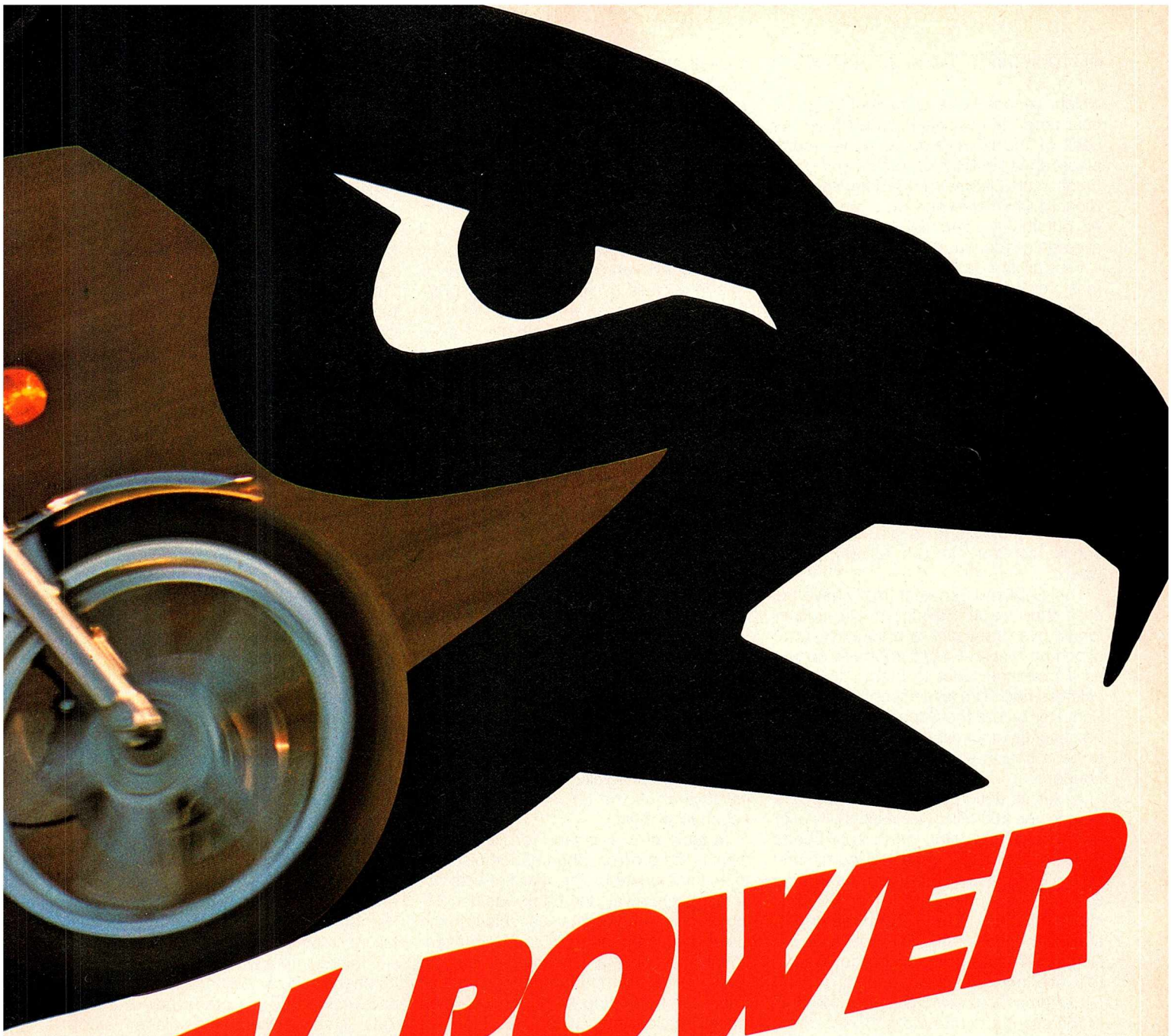

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CIRCLE NO. 41 ON READER SERVICE PAGE.

which, because of a clutch failure in the heat race, had likewise started from the back of the pack, worked up to fourth place, ahead of Billy Addington and David Emde. Kurt Liebmann, Freddie Spencer, Richard Chambers and Kurt Lenz rounded out the top ten finishers. The race average speed was 100.822 mph.

Fast as the Japanese fours were, the most remarkable bike in the field—and certainly among the best-ridden—was the John Long BMW. It handled well, was perfectly balanced, and Long used every bit of it. As has been the case over the past two years with the Gietl-built BMs, it was constructed almost totally from parts rescued from various Butler & Smith scrap piles. Udo, ably assisted by master craftsman Todd Schuster, had the bike going fast last season. This year he has it going reliably, and his communication with the motorcycle is so total that it should continue to run reliably everywhere.

Too, Gietl and Schuster finally have the rider they want. Having grown accustomed over the years to a succession of hyped-up racers, Long's coolness comes as a profound relief to them. "He's the calmest rider I've ever seen," marveled Schuster before the Superbike final. "But he definitely goes *fast.*" Look for the bike to be a threat, especially on tracks like Loudon.

As far as action at the front was concerned, the 200-Miler was essentially over by the beginning of the fourth lap. Roberts got a powerhouse launch and led the first two laps, ahead of first Aksland and then Baker. Steve rammed his bike up Roberts' inside going into Turn One at the end of the second lap, led the third, gave way to Roberts on the fourth; except for Cecotto's overtaking Aksland on lap 16, the upper order was established for the bulk of the event. Cecotto did not seem to be riding with his typical aggressiveness; possibly the bike had something to do with it. He had discovered the morning before the race that the bike he liked the best was not the bike he had qualified on. Since both were outwardly identical YZR750s, his crew had wheeled the unqualified bike up to final tech inspection, assuming no one would mind. But the AMA did mind, and had the mechanics bring up the legal bike instead. There had been other furors during pre-race tech inspection. Dick Kilgroe, who had qualified his touring fairing-equipped 750 Honda with a time almost 50 seconds slower than Roberts', arrived in tech with his bike's chassis identification bracelet missing. Kilgroe thought that the bracelet may have been put on his Superbike Production racer by mistake; tech inspectors Walt Fulton and Sid Damron didn't know *what* to think. Scraping their eyeballs across the scabrous exterior of Kilgroe's Honda, Fulton finally said, "What the hell. This must be the right bike. There can't be two of 'em." Smiling, Dick pushed towards his spot at the back of the grid. He needed the money paid to all starters to buy gas for his return trip to California. He planned to run for four laps, and then pull in. "I don't want to get in anybody's way out there," he said.

As it turned out Kilgroe had as much of a chance of beating Roberts as anybody else. Kenny, running on cruise control, was in a class by himself. Taking practically no chances whatsoever he continued to stretch out his lead over Baker, Cecotto, Aksland and Ron Pierce, who was all alone in fifth, where he had been since overtaking John Long and Gary Nixon (both of whom pulled in early, Long for a fuel tank vent stoppage and Nixon for his last in a series of engine stoppages) on the third lap. Pierce was smooth, disciplined and lovely to watch. He was also running in a solitary envelope, well behind the front four and safely ahead of first Gregg Hansford, then a hard-charging Sadao Asami (who between laps five and 17 had smoked past van Dulman, Cooley, Cone, Long, Romero and Hansford), and finally Hansford again.

What upfield drama there was began, for Roberts, on the 33rd lap, when his bike began to exhibit all the characteristics of a failing rear tire. It began to skate rather more dramatically than Roberts would have liked, especially coming out of the infield and off the chicane. And then it began to wobble.

It took all of two laps for Roberts to identify the problem and change his style to accommodate it. The rear tire was not in fact going away; the track was becoming greasier than normal, especially in the lower-gear left-handers. Roberts' conventional style considers the drive away from turns to be all-important. But with exit traction deteriorating, he began to ride on what is called the "Bakersfield Line"—a method of racing wherein deep, late braking on tight lines is emphasized, and acceleration takes place with the bike essentially upright. Once Roberts made the change his lap times once again stabilized in the 2:08–2:09 range, which was fast enough to keep him well clear of Baker—whose bike was doing some sliding of its own.

By the 44th lap Roberts had lapped Skip Aksland (whose right arm, upon which he had crashed twice in Turn Two during practice, was in the process of going numb), but had begun to suffer the effects of yet another problem—his monoshock's damping had been disappearing rapidly, and by now the bike could not be ridden wide-open around the high banks. For a moment Roberts slacked off the pace. Then, apprised of Baker's position (about 12 seconds back), two thoughts went through his mind: first, that if the Roberts machine was getting strange then the Baker bike had to be likewise; and second, that he had worked hard for his lead, and would make Baker work hard to get it away from him.

With the end of the race within sight and with renewed determination, two significant things happened: he caught up to second-place runner Cecotto and sixth-place man Hansford; and Baker's bike expired coming out of the infield. Roberts, not knowing about Baker's failure and misreading a pit signal which showed him 100 seconds in front, extended himself beyond the call of duty and lapped Cecotto for the first time and Hansford for the second. "All I saw was 05," he recounted afterwards. "I didn't know who 05 was, and I figured Baker was right on my tail."

Safely in front now by more than a lap, Kenny was home free; his final winning margin was one lap, five seconds, becoming the first Daytona winner in ten years to lap the entire field. Cecotto was unthreatened in second, Aksland and Pierce were a lap down in third and fourth, and Hansford, two laps adrift, was fifth.

Roberts' record-setting pace (108.373 mph) was so severe that riders finishing as high as 18th were lapped four times; if you were running between 22nd and 26th you were lapped five times, and if you were down farther than that you would have seen Mr. Roberts close-up six times or more.

And if the pace up front wasn't bad enough, there were other elements for many riders to contend with. Chargers Dale Singleton, John Long and Bruce Hammer were all brought low by tank vents which wouldn't function with full fuel tanks beneath them, putting all three down at least a lap immediately. Then Hammer's bike had a cooling system failure in the infield sweeper; finding himself racing into a wall of steam, Singleton touched the rear brake a tad too firmly and wadded up his brand new E-model 750. Randy Mamola's transmission breather started pumping gearcase oil, which sidelined him, Nixon of course seized, Pierce's engine fractured a cylinder head bolt, Jessie Byars tipped over in the Horseshoe and had to watch his 750 burn to the ground due allegedly to a series of fire extinguishers which malfunctioned, Wes Cooley worked his way up to eighth before his engine, which he had used in New Zealand last winter, got terminally tired, Romero's rear brake went out, Aldana's bike seized temporarily but kept going.

Who had fun in the 200? Maybe Roberts. Certainly Pierce, who looked just great. Possibly Gary Scott, who worked like a slave and finished ninth, his best Daytona finish in memory.

For everyone else the 200 embodied either too much reality or too many nightmares. Racing as a general exercise imposes difficult realities. But Daytona, this year, went far beyond that; this year Daytona imposed punishment. ◉

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# DAYTONA '78: PITSIDE FEAR AND LOATHING

What was causing A) low speeds, B) unpredictable seizures and C) a week of sleepless nights? The Humboldt Current, or was it the restrictor rule?

By Kevin Cameron

● DAYTONA 1978 WAS A QUALIFIED VICtory of human technology over human interference. The AMA, reacting to a complex set of pressures from within and without racing, imposed the long-rumored intake-area restriction to limit 750 performance.

Yamaha Motor Company of Japan responded with characteristic resource and ingenuity, their works machines sweeping the event one-two at record speeds. Each cylinder drew all its air through a tiny 23mm orifice.

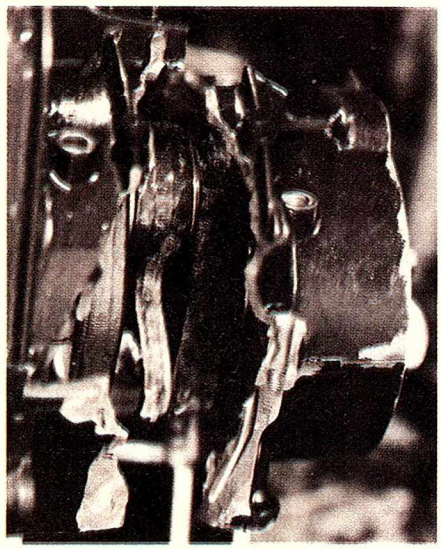
Engines require a precisely carbureted mixture of air and fuel, approximately 12.5:1 by weight ratio, and the power they make depends on how much of it they can get. The AMA reasoned that they would get less of it through a 23mm hole than they have in past years through their open 34mm intake systems.

Quite aside from the hows and whys of the orifice rule was the way in which it was imposed. The AMA began to sound serious about some such rule more than six months ago and cast about for expert advice. Where better to get it than from Yamaha? The result was that while privateers marked time, awaiting final word on the new rule, Yamaha dynos were already hard at work evaluating various sizes and types of restriction schemes. This cozy arrangement amounted, in the opinion of many, to a free seven-month head start for the factory. Old hands predicted that the AMA would delay as long as humanly possible in publishing the orifice rule, and indeed, Referee Bulletin 78-1 did not appear until a scant two months before race time, while much of this country was buried in snow.

Of course, the private runners were at liberty to begin testing any sort of restrictor they liked at any time they felt appropriate. They were not, however, in a position to recommend adoption of their particular restriction schemes to the AMA after having sunk their development dollars into them, and here lies the difference. The privateer had to await the AMA's pleasure, then begin his own development, if any, months after factory plans were already set.

What is the orifice? In its simplest form, Bulletin 78-1 calls for a washer two millimeters thick between each carburetor and its engine intake port. A four-cylinder engine gets four 23mm holes, a three gets three 27mm ones, and a twin a pair of 33mm numbers.

The restrictor restricts in two ways. First, air flowing through a reduced cross-section in a duct must accelerate, the



energy for this coming from a loss in pressure. Turbulence and viscous losses see to it that not all the original pressure can be recovered downstream from the reduced section. The engine waiting, its mouth open expectantly, gets less of a mouthful, and power falls. Second, if the throat velocity of the orifice becomes sonic, the flow becomes "choked." Further drops in the downstream pressure (harder "sucking" by the engine) can no longer be communicated upstream through the shock now occupying the throat. This imposes an absolute upper limit on flow when upstream pressure is the atmosphere, as it is in unsupercharged engines.

Bulletin 78-1 also contained suggestions on how to stop worrying and love the orifice; it would be legal to make attempts to streamline airflow into and out of the restrictor. The bulletin suggested installation of a conical sleeve in the carburetor to lead the airflow smoothly up to the orifice. Air can approach a simple flat washer from all angles, much of it coming in from the sides. The momentum of this off-axis air continues to carry it toward the center of the flow even after it has passed the point of maximum restriction, producing a further contraction of the flow area called the *vena contracta.* Installation of the conical sleeve reduces the maximum angle of off-axis approach to that of the cone itself and this, according to Bulletin 78-1, would restore some 12 per cent of the 25 per cent flow loss caused by the bare washer.

Another hardware suggestion was streamlining of the exit from the orifice, gradually expanding the flow from the small 23mm hole out to the 35 x 45mm of the reed valve downstream. Without this, the air issuing from the orifice would be a free jet, not attached to any wall, and would entrain stagnant air from near the walls in pressure-robbing eddies. The rubber carburetor mounting flange of the stock motorcycle had done a fine job in the past, for its flow had only to expand from the 35mm outlet diameter of the carburetor. Bulletin 78-1 called for making up this size difference in the original manifold with a flexible filler, such as silicone rubber. This further work, it was stated, could recover another few per cent of the losses, so that restricted power might now be as high as 90 per cent of the original.

These determinations were made in steady-flow blowing tests, performed on Yamaha intake hardware with the reed petals removed, and were true, if anywhere, only under the fluorescent lights of the laboratory.

In the real world, far from the comforting armchair, sheer airflow takes a hard and unyielding back seat to the mysterious requirements of carburetion. Engines such as the big TZ have one carburetor per cylinder, and this means that the airflow is anything but steady. Pressure heads in running engines reach 120 inches of water or more, many times the standard pressure used in commercial flow equipment. Airflow starts and stops with every engine revolution, even reversing at low revs, despite the reed valve, and blowing back to atmosphere. Providing a correct, combustible fuel/air mixture straight across such variable, violent conditions is not trivial. The mixture will be affected by the duration, amplitude, and shape of the suction pulse originating in the engine crankcase and propagating towards the carburetor through the intake system. Non-steady airflow has such an effect because of the great density difference between fuel and air. Air is accelerated by the suction pulse much more rapidly than the fuel, which lags behind. Conversely, the fuel, once moving, continues to pour from the delivery tube even after the air has stopped moving entirely. These facts can make trackside life a headache any time changes are undertaken.

There are other real-world troubles. Since the engine's suction pulse is just a big rarefaction wave (a very loud, low-frequency sound in reverse), it obeys the same sort of rules that sound waves do. Standing waves can form, resulting in regions of zero pressure change. If the fuel-delivery tube occupies such a region

*(Continued on page 88)*



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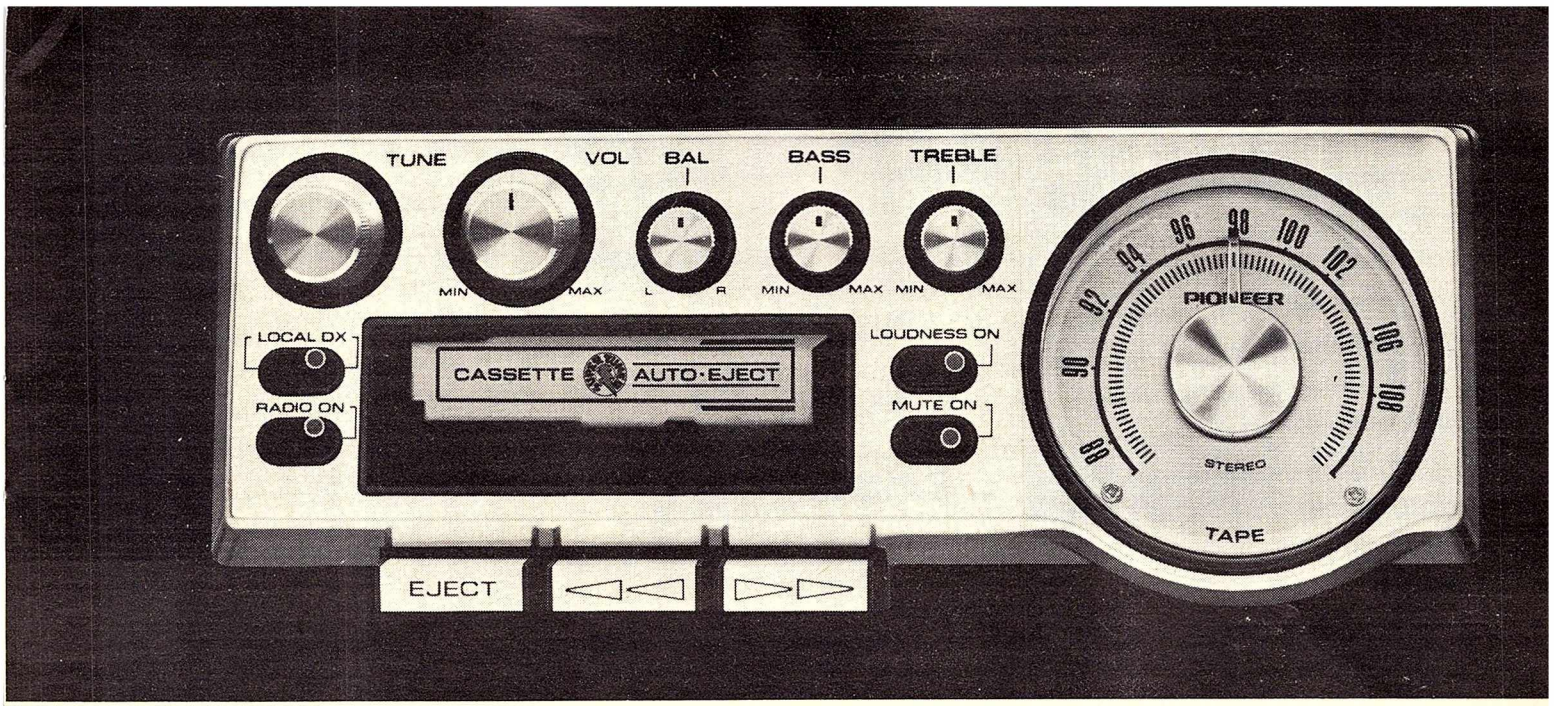


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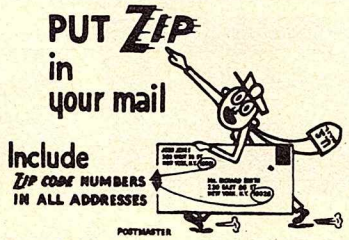


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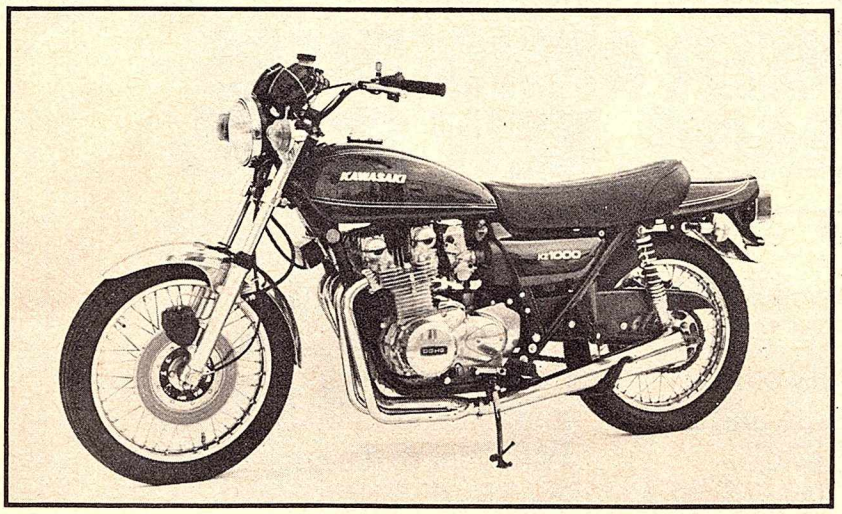


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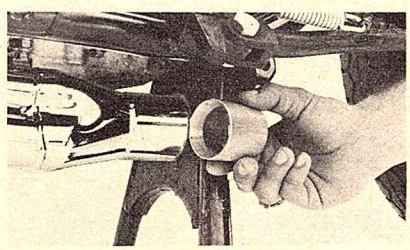

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**PITSIDE FEAR** .... *Continued from page 86*

at any speed, there will be no carburetion. Yamaha engineers had put all such bugs to sleep very nicely, but now enter the anti-engineers of the AMA, stirring them all up again by thrusting their no doubt well-meaning fingers into everyone's intake system.

To their credit, the AMA did not do this entirely without track testing. Certain individuals were invited to Daytona in winter to participate in orifice testing, and some of what little was learned then was passed along to the waiting privateers in Bulletin 78-1. The bulletin calls for a giant increase in jetting, up ten sizes from standard on the main and full rich on the needle as well. The bulletin does not mention engines locking solid in learning this, but lock solid they did. And they were not to be the last ones. Maybe the problem was more complicated than a few washers and good intentions.

Because most riders are accustomed to find what they need in the box with their new Yamaha, few were prepared to deal independently with the new rule. Not all of them are hydrodynamicists, airflow technicians, first-rate machinists and dyno experts all rolled into one. When confronted with the orifice, they had little option but to go along with the recommendations of 78-1.

And what did they discover when they got to Daytona?

1. No horsepower. The 750 speed trap sheets posted early in practice week read like 250 sheets. Lots of speeds in the 140s. Slow!
2. The suggested silicone filler swelled up and dropped out, passing into engines. This included the hot-setup, aerospace-$20-a-tube mystery filler.
3. Seizure. With rich indications from plugs, heads, and pipes, seizure, sudden and unexplainable.
4. When all the silicone filler had fallen out or was torn out by irate riders, power *increased.*

There were exceptions, most notable of which were the factory barracudas, darting swiftly through schools of private mackerel. For these well-engineered machines, the big numbers, including the magic one-eight-zero, were still a reality.

Other exceptions were certain people using the over-the-counter Lectron carburetor/restrictor package, various no-brand patent nostrums, and of course, those who were just plain lucky. And by Sunday morning, those who had still not seized were suspected of factory connections or outright witchcraft.

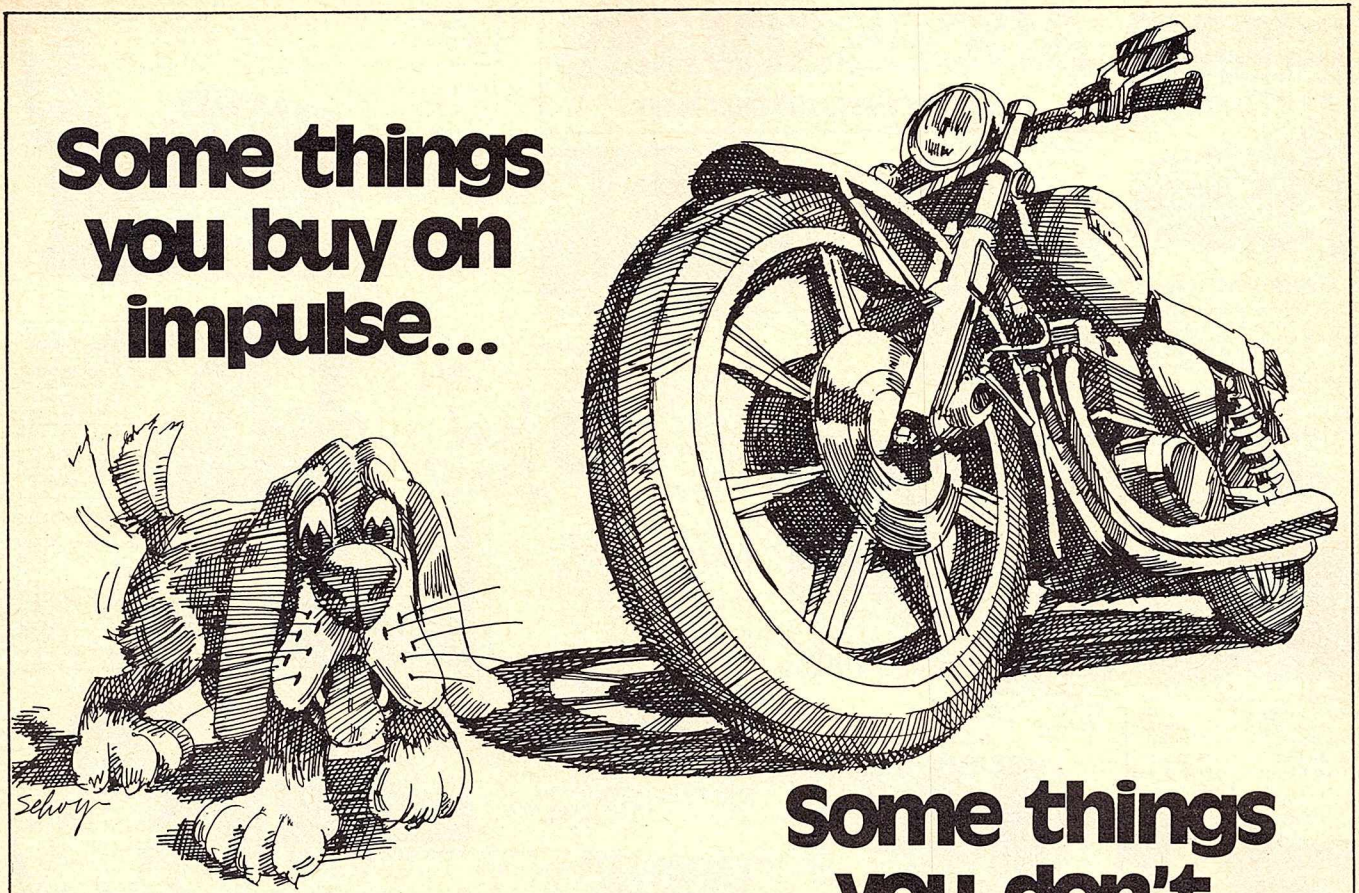
Ken Roberts opined that the people seizing this week were the same ones who always seize anyway, yet among their number were Erv Kanemoto and Don Vesco, to mention two very experienced and respected tuners. By the week's end, they had gathered a total of eleven

*(Continued on page 98)*



CIRCLE NO. 81 ON READER SERVICE PAGE.

# Some things you buy on impulse...



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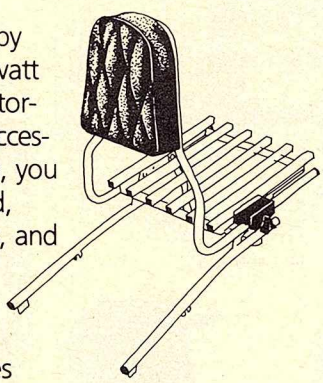

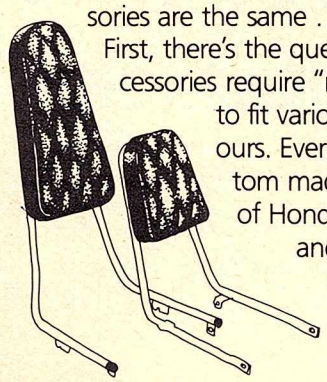

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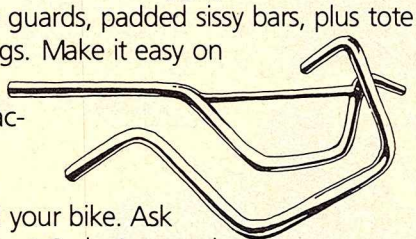

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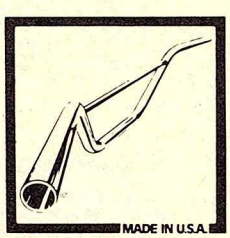


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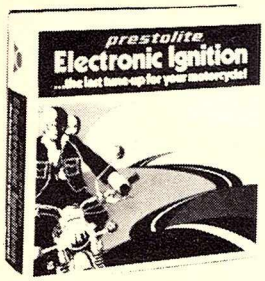


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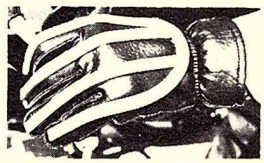

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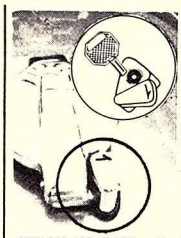

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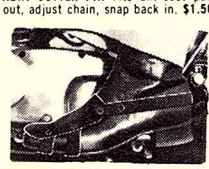

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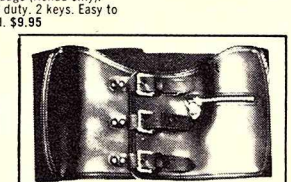

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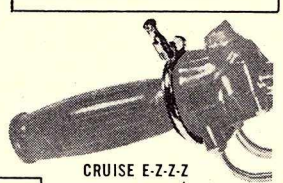

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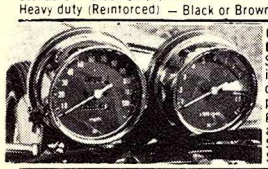

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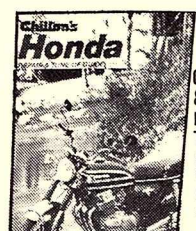


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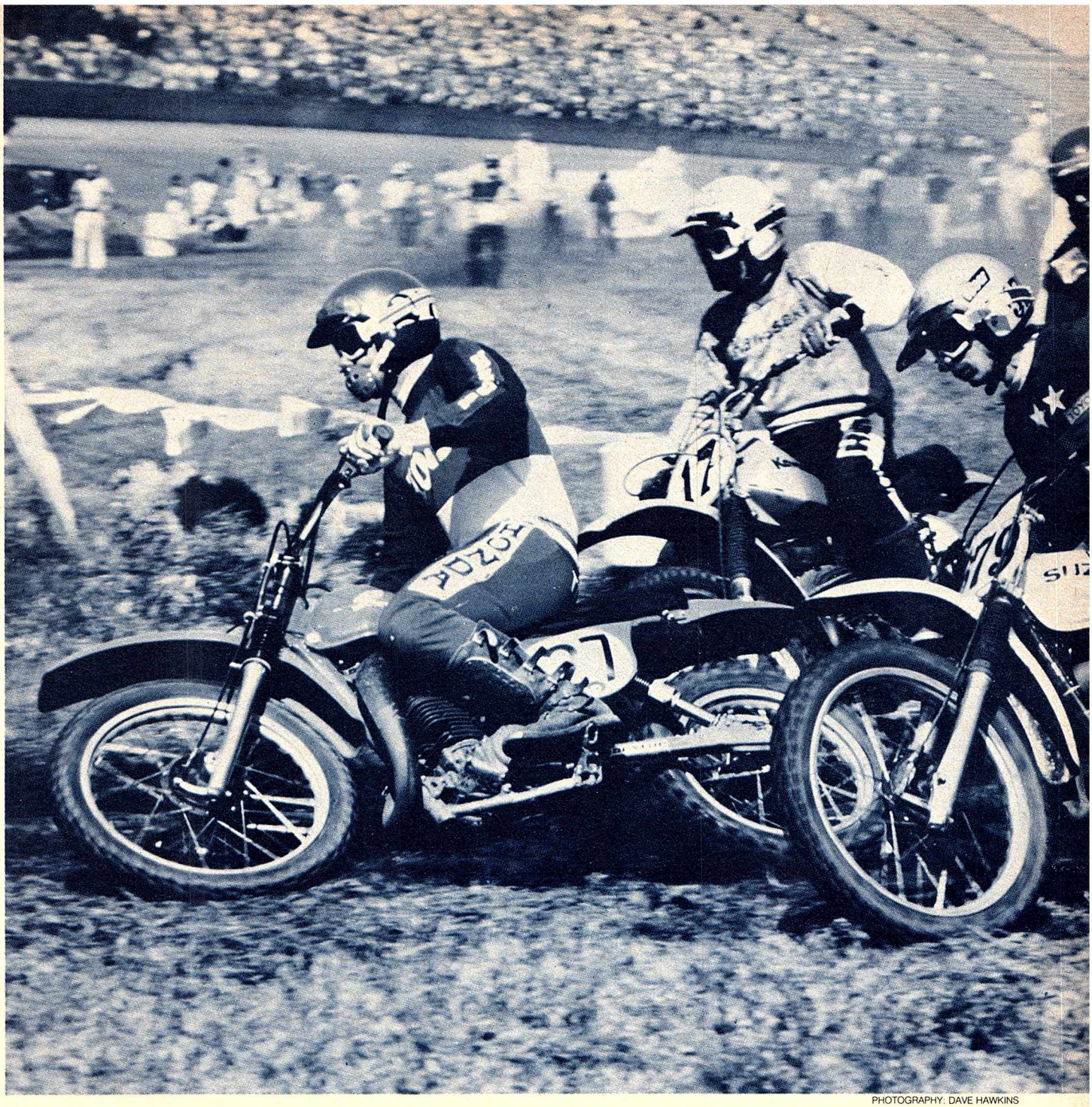
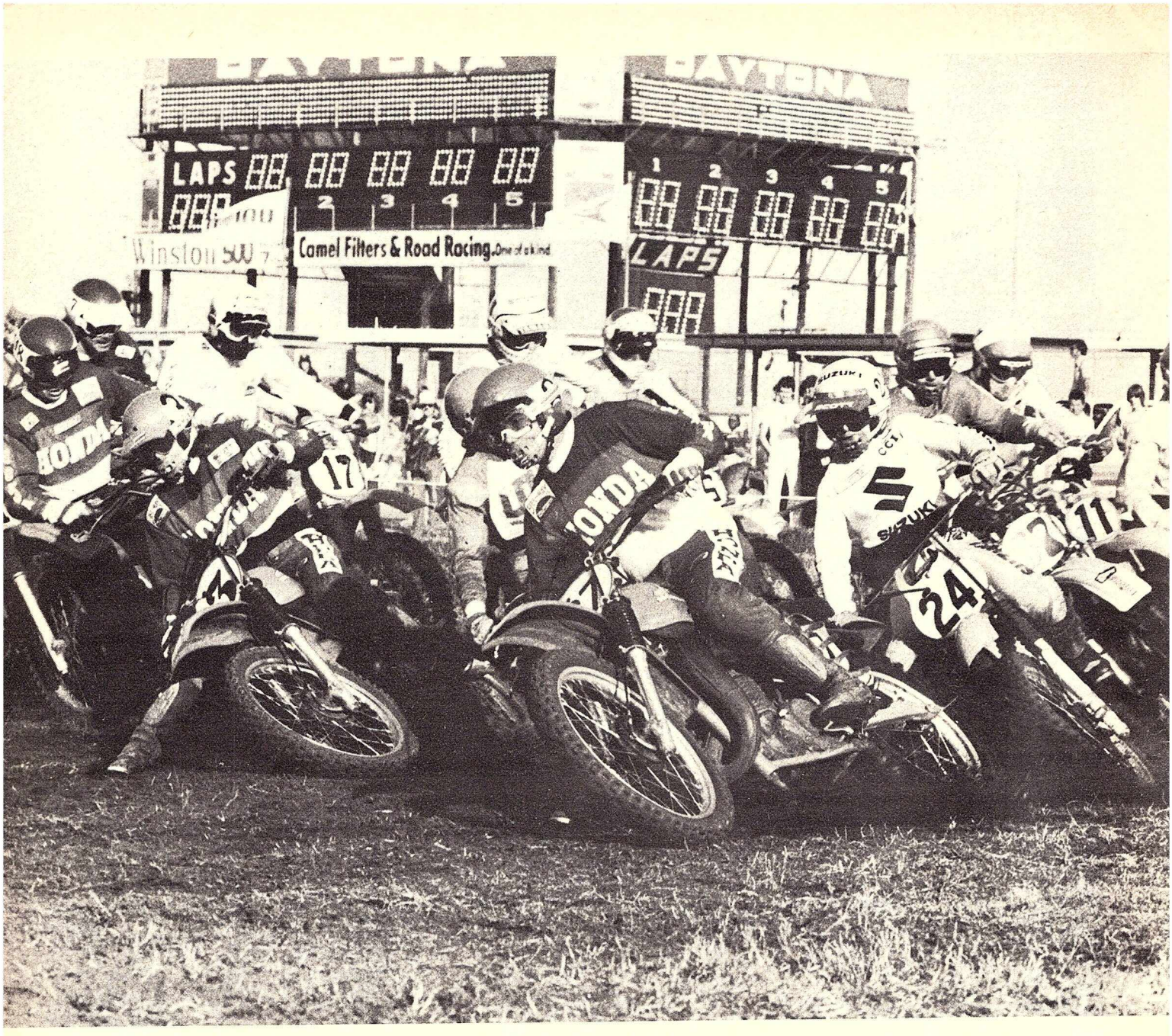


PHOTOGRAPHY: DAVE HAWKINS

# DAYTONA SUPERCROSS: TRIPES COMES BACK

All around the tri-oval, across pit road and through alligator pits, it was a Honda parade at Daytona.

By Dave Hawkins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# DAYTONA SUPERCROSS

In tight first-turn action, (above) the Hondas of Marty Tripes (27) and Marty Smith (3) lead the way. Whenever Smith and Bob Hannah get together (far left) the racing is always close. Daytona's third heat wasn't an exception. In the main event, (left) Jimmy Ellis moved into third by passing Suzuki's Mark Barnett in one of the several alligator pits. Four days before the race, (right) trucked-in mounds of sand were shaped into spectacular jumps.

● AS THE LAST HIGH-PITCHED SCREAMS OF novice road racers echoed through the empty Daytona Speedway on Monday evening, big earth movers rumbled around, shaping mounds of transplanted sand into a stadium motocross track.

On Wednesday, the first of an army of factory motocross support vans arrived in Daytona Beach. Mechanics quietly prepared machines, almost unnoticed amid the carnival atmosphere of Speed Week. By Friday the best motocross riders in America were on hand for the third race in the 1978 Supercross Series.

Although the track was safer than last year's had been, many experts still didn't think it was a good track. The major part of the motocross course was constructed on the tri-oval area between the pit wall and the start/finish grandstand. All the possibilities for a great track exist at Daytona, but of course reality never does reflect the possibilities.

The Daytona Supercross is the only stadium race on natural (although flat) ground. The soil is loamy sand and very hard. Berms, built up in practice, either broke apart or inched outside the banners on the hard Daytona surface. The only elevation changes were the huge sand jumps and the "alligator" pits. A mid-week rainstorm filled the pits with water, and the fury of Saturday's motocross knobbies transformed the rain-soaked sand pits into a mixture that looked like black grits.

After four qualifiers, two semis, one consolation and the main event, the course should have been carpeted with huge whoops. But the hard surface only showed some small washboard ripples. Riders were able to carve only one line through turns, and this later proved to be a nemesis as race leaders lapped other slower riders.

Marty Tripes, who in the past has played musical chairs with sponsored rides, has found a new measure of stability—and success—on the Honda motocross team. He led the throng of first-qualifier riders into the first turn and held his lead throughout the entire race. Jim Pomeroy followed teammate Tripes through the first turn but fell victim to a charge by 250 National Champion Tony DiStefano. Then Jim Weinert got past Pomeroy just before the checkered flag.

In the second qualifier another Honda fronted the procession through turn one. Warren Reid hit the gate perfectly; his advantage held until Marty Moates passed him a half-lap later. Then Moates bobbled and dropped back to third behind Reid and Suzuki teamster Kent Howerton. Howerton forced his way past Reid on the fifth lap, and Warren hit the Toyota jump wide-open trying to catch Howerton. Three series points were given to each qualifier-race winner so riders were not content just to transfer to the main. Warren rocketed off the jump and soared 84 feet 10 inches to win the Toyota-sponsored longest-jump contest. For that Reid got $250. He also got a sore backside when the bike looped on the landing. Bouncing to his feet, the Honda rider chased down his bike, re-entering the race after losing only one position. On the last lap, Rich Eierstedt on a Can-Am slipped into third, pushing shaky Reid to fourth. Mike Bell put a great charge together after the backwards-falling gate had trapped his front tire. He set the fastest lap time recorded, only to have his chain slip off after he had worked his way into a transfer position.

Controversy surrounded the start of the third heat. Exactly 60 seconds after the one-minute sign is displayed, the card is turned sideways; the gate can then fall at any time in the next three to 10 seconds. But to start the third qualifier, the gate fell exactly 36 seconds after the one minute card was displayed. As a totally surprised field of riders disappeared through the first turn, Marty Smith sat on the line watching his mechanic's stopwatch. "I

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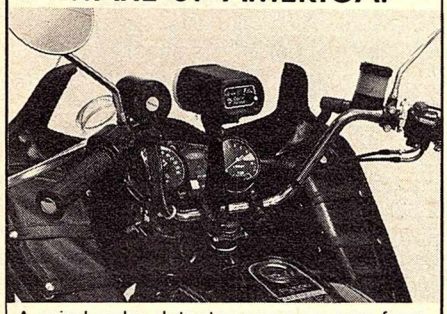

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**SUPERCROSS** .....*Continued from page 93*

couldn't believe it!" he said. "I just thought to myself, 'they can't do that!' So I just rode around in front of the gate and hoped that Dave (Arnold, his mechanic) could convince them to restart the race."

Evidently Arnold's argument was convincing; officials red-flagged the race after one lap. On the restart Smith didn't have any problem with the timing. Marty's holeshot made it three-for-three for the Hondas. Bob Hannah, defending Supercross champion, dogged Smith, hoping for an opening. Smith bogged his Honda as he dove into one of the muddy pits; and this slight hitch was all Hannah needed as he splashed by Smith and into the lead.

Danny LaPorte got past Can-Am's Kenny Zart for third, behind Smith.

Mark Barnett broke the Honda holeshot string by putting his Suzuki through the first turn in the final qualifier, but Honda-powered Jimmy Ellis was just behind. Ellis passed Barnett and held on for the win as Tommy Croft moved up just behind the pair for third. Don Kudalski and Gaylon Mosier filled in the top five spots.

In the semi-final events, Yamaha proved that they too came to Daytona to race. Rick Burgett led the first semi from gate to flag, and in the second semi Broc Glover worked his way into the lead for the win. Joey Gratton won the consolation race to earn the last possible starting slot for the main event.

The start of the final event was no different from most of the previous races: Hondas dominated. Marty Smith rocketed to his second holeshot of the afternoon. Teammates Marty Tripes and Jimmy Ellis had the inside line and squeezed Mark Barnett and Bob Hannah back to fourth and fifth. For the first few laps the pack remained tight because there was very little passing on the narrow one-line track. On the fourth lap Hannah and Jimmy Weinert passed Barnett. Hannah immediately stretched out a lead over Weinert who was then entangled with the persistent Barnett. Mark began to fall off Weinert's steady pace, and by the seventh lap Jim had opened up a comfortable lead for fifth place. As the Honda trio of Smith, Ellis and Tripes began to lap slower riders, the first change appeared on the leader-board.

Marty Smith spilled, losing his lead to Ellis and putting Tripes in second. "Some slow guy fell right in front of me and I couldn't miss him. I fell and luckily my bike tipped over on its right side and kept running. That dropped me to third."

But on the very next lap Ellis shared Smith's fate. Ellis couldn't believe what happened to him. "I should have had the win! I was setting up to pass this guy, and when I was right on his rear fender he hit a tire in one of the corners; it stood him straight up and I ran into the back of his bike. I didn't fall, but it really slowed me down and let Tripes get past me."

On the white flag lap Tripes led, followed closely by Ellis and Smith. Back in fourth Hannah couldn't seem to make up ground on the front-running Honda train. Hannah's Yamaha was down on power just enough to keep him out of contention. Barnett closed on Weinert and passed him in a last effort to take over fifth place, but Barnett tipped over in a berm and allowed Weinert to hold the spot. Tripes took the checkered flag in front while Smith elbowed his way past Ellis on the last lap. Hannah finished fourth with Weinert next, ahead of Barnett. Tommy Croft finished seventh, leading a pair of privateers, Mickey Boone and John Savitski. Husqvarna rider Chuck Sun completed the top ten.

With his Daytona victory, Marty Tripes leads the Super Series point standings with 81. Tied for second with 55 points each are Kent Howerton and Bob Hannah; they have only a one-point cushion on Jimmy Ellis. Tommy Croft, Marty Smith and Steve Wise fill fifth, sixth and seventh positions ahead of Rich Eierstedt, Danny LaPorte, Rex Staten and Jimmy Weinert.

Last year Hannah amazed the crowd with his riding of a stock YZ250 Yamaha. He dominated the Super Series. This year, a stock bike won again, but it was Honda red and ridden by Marty Tripes. Out of the top seven series leaders, five are factory Honda riders.

Marty Tripes has slimmed down and is deadly serious about racing, perhaps for the first time in his career. His second-place finish at the season's opener was surprising. Then his win the following week in Atlanta seemed amazing. But his win in Daytona may well be downright prophetic.

1978
Daytona Supercross
Results

| | | |
|---|---|---|
| 1. | Marty Tripes | Hon |
| 2. | Marty Smith | Hon |
| 3. | Jimmy Ellis | Hon |
| 4. | Bob Hannah | Yam |
| 5. | Jimmy Weinert | Kaw |
| 6. | Mark Barnett | Suz |
| 7. | Tommy Croft | Hon |
| 8. | Mickey Boone | Suz |
| 9. | John Savitski | Yam |
| 10. | Chuck Sun | Hus |

Supercross
Point Standings
(including Daytona)

| | | | |
|---|---|---|---|
| 1. | Marty Tripes | Hon | 81 |
| 2. | Kent Howerton | Suz | 55 |
| 2. | Bob Hannah | Yam | 55 |
| 4. | Jimmy Ellis | Hon | 54 |
| 5. | Tommy Croft | Hon | 43 |
| 6. | Marty Smith | Hon | 37 |
| 7. | Steve Wise | Hon | 32 |
| 8. | Rich Eierstedt | C-A | 30 |
| 9. | Danny LaPorte | Suz | 29 |
| 9. | Rex Staten | Yam | 29 |
| 9. | Jimmy Weinert | Kaw | 29 |


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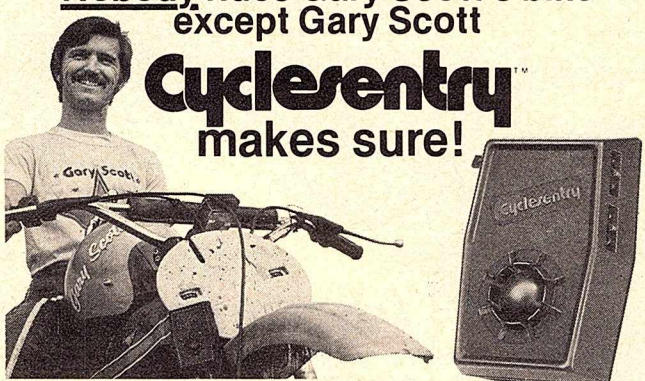


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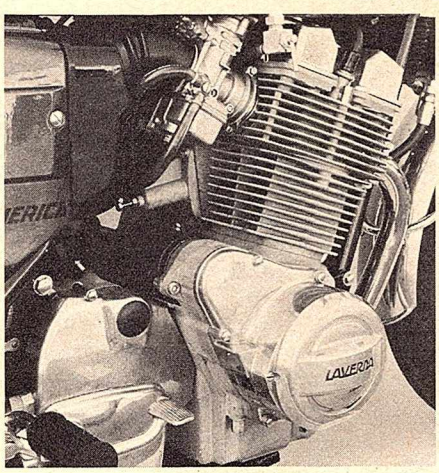
triple's worst shortcoming is the twin lurking treacheries of its jutting alternator cover and the recently added sidestand, which are on opposite sides of the bike and thus can drag in right or left turns. The alternator cover stands out there fairly far, but it's high, and dragging it on the pavement is mostly unsettling rather than dangerous—unless you like to do a K. Roberts dive straight into maximum lean. It's the side stand that's the real villain, as it's low and solid and tends to lift the Laverda's rear wheel when grounded.

Readers who have suffered through all our many complaints and lamentations to this point may assume that there is nothing harsh left unsaid, and that there is nothing good to be said of the Laverda without heavy qualification. Not so. We have plenty of unkind words to lavish on the rear-view mirror supplied with our test bike, which looked as though it had risen up straight from the depths of a dollar-bargain catalogue. And we have unqualified praise for the manner in which Laverda provides access to the underseat space: the seat is hinged, with a locking latch that can be left unlocked.

With the glaring exception of its mirror, the Laverda is an assemblage of high-quality components. There's nothing cheap about its Bosch electrical system, which includes a pointless capacitor-discharge ignition so effective that it overcame bad carburetion and too-cold plugs. All the 1200's brightwork is bright, its brake and suspension hardware expensively chosen, and there is both quality and strength in the bike's Moto Laverda-manufactured innards. It's not a hand-

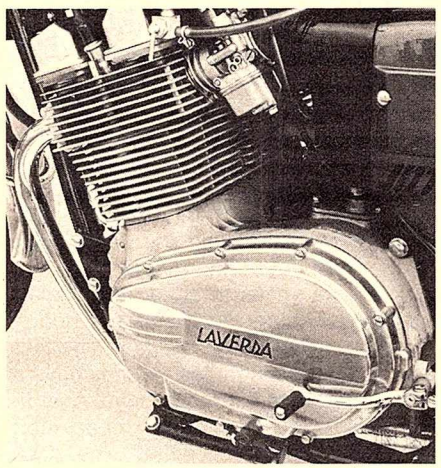



made motorcycle; it does comprise some of the best hardware available from an international list of suppliers.

But clothes do not make the man and a price-no-object shopping list has not made the Laverda 1200 "Jota America" into a better motorcycle than it was at birth; happily, the people at Moto Laverda have been sort of half-hearted in their efforts to reform the raffish triple. They're enthusiasts, after all, building motorcycles

mostly because doing that is an entertaining diversion from the farm-equipment manufacturing which still, as before, is responsible for providing a solid economic base.

Only an absolutely dyed-in-the-wool, hard-eyed mountain road motoring freak would have wanted the original Laverda triple, and that's still the only kind of rider who'd find the bike lovable even today. Sure, they haven't helped the brakes and




carburetion; certainly the damping is off and the side-stand's in the way and the handlebar's wrong and the footpeg orientation is whacko. But all those things are fairly easily corrected; the Laverda can be put right simply by changing it right back to where it was.

Where the Laverda triple was, was very nice—and the essentials are still there. Behind the spotty carburetion there's an engine that may seep a little oil but also just oozes sporting character. It may not be the last word in peak horsepower highwinders; it will give you the kind of broad-range muscle that works so well everywhere but the drag strip and keeps you from wearing holes in the toes of your boots from pumping the shift lever. It vibrates, that's true, but the shaking isn't the sort of nerve-frazzling, hand numbing buzz riders find offensive. The Laverda triple grumbles and purrs and devours distance in a highly satisfying way. It carries you along in seven-league strides, its tall gearing holding the engine at an unruffled 3500 rpm when you and the bike are moving at the rate of a mile every minute. You'll begin to feel really comforted by that low, leisurely engine speed as the miles roll by, and if you have any sporting blood there's still the racer's-crouch seating to get it simmering. The disabilities we've noted here will make you cautious about giving way to those sporting instincts and make you resolve to correct them, because down deep the rouged and ribboned Laverda hasn't been changed all that much. It still has the makings of a wonderfully sporting ride, and that's better accommodations than you're ever going to find on Monkey-See Marketing's bandwagon. ◉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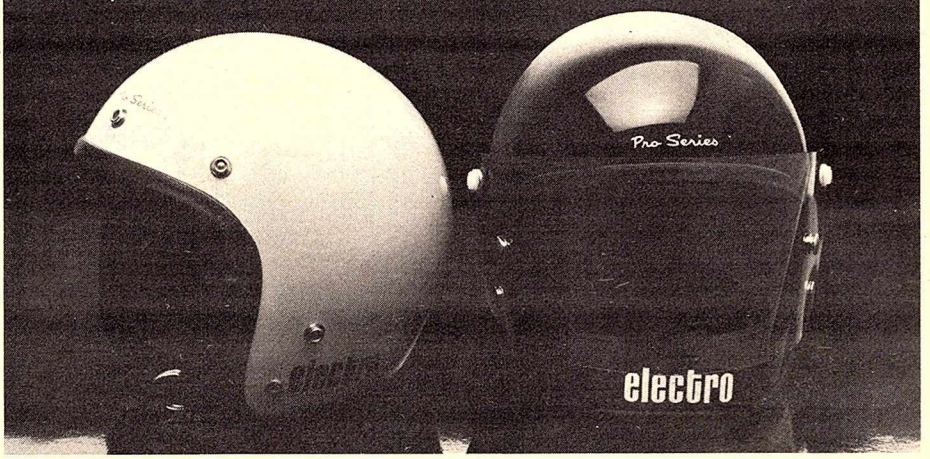


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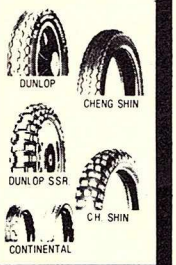


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| Kaw KZ1000 '77-'78 | 4 into 1 | 140.14 |
| Suz GS550 '77-'78 | 4 into 1 | 160.40 |
| Suz GS750 '77-'78 | 4 into 1 | 140.14 |
| Tri Bon/Tr6 '64-'74 | 2 into 1 | 82.73 |
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| Kaw Z1/KZ900/1000, All | 4 into 1 (in chr) | 155.13 |
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| Suz GT750 '74-'77 | 3 into 3 | 181.47 |
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| Exhausts | 3.60 | 5.25 | 6.75 |
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**PITSIDE FEAR** .... *Continued from page 88*

tighten-ups between them.

With time's flow, some near-facts began to emerge. Those whose engines required very rich jetting were going the slowest. Those whose setups tolerated leaner settings were going faster. Those who had the benefit of months of factory dyno and track test development were going fastest of all.

Tuners genuflected as other machines were wheeled by. Really, they were stooping to see what sprockets were in use. Daytona gearing for the unrestricted D/E Model Yamaha is 18/38; RPM of 10,000 or over on this gear, in 6th, is respectable. Nevertheless, there were many on 18/40 and 41, or even 17/40, and others much farther downscale, turning low revs, seizing anyway, and tasting the rising bitter gorge of self-doubt and defeat.

Wide differences in speed are understandable. Factory machines are ridden by factory riders. They ride fast. The factory makes the machines, so they have a decent understanding of them. And finally, the free seven-month head start didn't hurt too much, either. The AMA tried to make this up to the privateer in Bulletin 78-1, but it was not a very good try. Let's charitably call it a first try. The airflow problem is complex and difficult, and Yamaha solved it. So did a few others. The best I can say about the matter is that the factory is expected to win anyway, so that's not a real concern to me. The real concern is the heavy, expensive, and potentially dangerous loss of engines caused, in my opinion, by this half-baked and hasty rule. I realize that the AMA feels a great responsibility to Bill France and other promoters to put on a good show, but there must be concern for the rider somewhere. Can a privateer be reasonably expected to accomplish in two days of Daytona practice what has taken the factory months of in-house testing? The Daytona track is hard enough on privateers without their being expected to use it to engineer fundamental changes in engines that most of them understand only superficially.

Why the seizures? Why especially without warning, on top of indications of richness and safety? There was a problem early in the week with insufficient float drop on one carburetor type, but this was quickly corrected. Every brand came in for its share in the slaughter. The winds of misinformation always blow at Daytona, but this year they howled and raged.

"It's the track gas! Everyone on the track gas is seizing!"

"No, it's the Brand X carburetors! Everyone on Brand X. . . ."

"Wait! I think it's the Humboldt Current—the sea breeze is. . . ."

And the next minute, from the next informant, the story would be the reverse of the last one, or of this morning's story. It took real strength of character, or inten-

tional deafness, to ignore it all and get on with the work as planned.

Here is what I think. Since some setups needed big jets while others tolerated small ones, couldn't this indicate that two states of flow were possible in the intake system? One flow would transmit a strong metering signal to the carburetor, while the other attenuated that signal, requiring big jets. Could not a given intake system produce *both* types of flow, but at different engine speeds? If the strong-signal type of flow persisted well up into the rev range, then abruptly switched to the weak-signal type, carburetion would lean out and seizure could result.

There are two possibilities. There is a bend in the intake system just where the carburetor joins the intake flange. This is the point at which the flow must diverge to fill the interior of the reed cage. The sudden divergence of the duct at this bend could produce a flow separation from the lower wall at some certain engine speed. This separated flow could interfere with the suction pulse coming from the engine, leaning the mixture and inviting a tie-up.

Or, the same kink and divergence could act as a reflector or diversion to the suction pulse viewed as a sound wave, blocking its arrival at the carburetor. The result would be the same.

So much for the orifice. Now on to the hardware. The factory machines ridden by Cecotto and Baker were equipped with updated versions of last year's Powerjet carburetor. The Powerjet is a separate metering circuit which cuts in as the throttle slide reaches a certain height, enriching the full-throttle mixture. This permits part-throttle mix to be set very fine for snap response and acceleration out of slower turns, yet with adequate richness for top end. A thin brass tube projects downward from the top of the bolted-on magnesium bellmouth casting, terminating a bit below bore center and just in front of the throttle slide. A hole drilled in the back of this tube feels airflow vacuum as the slide reaches its height, pulling fuel up from the bowl, through a jet, and over the top of the carburetor into the brass tube. Last year's system came in at half-throttle, but the delivery hole is drilled noticeably higher this year, perhaps to cope with orifice requirements.

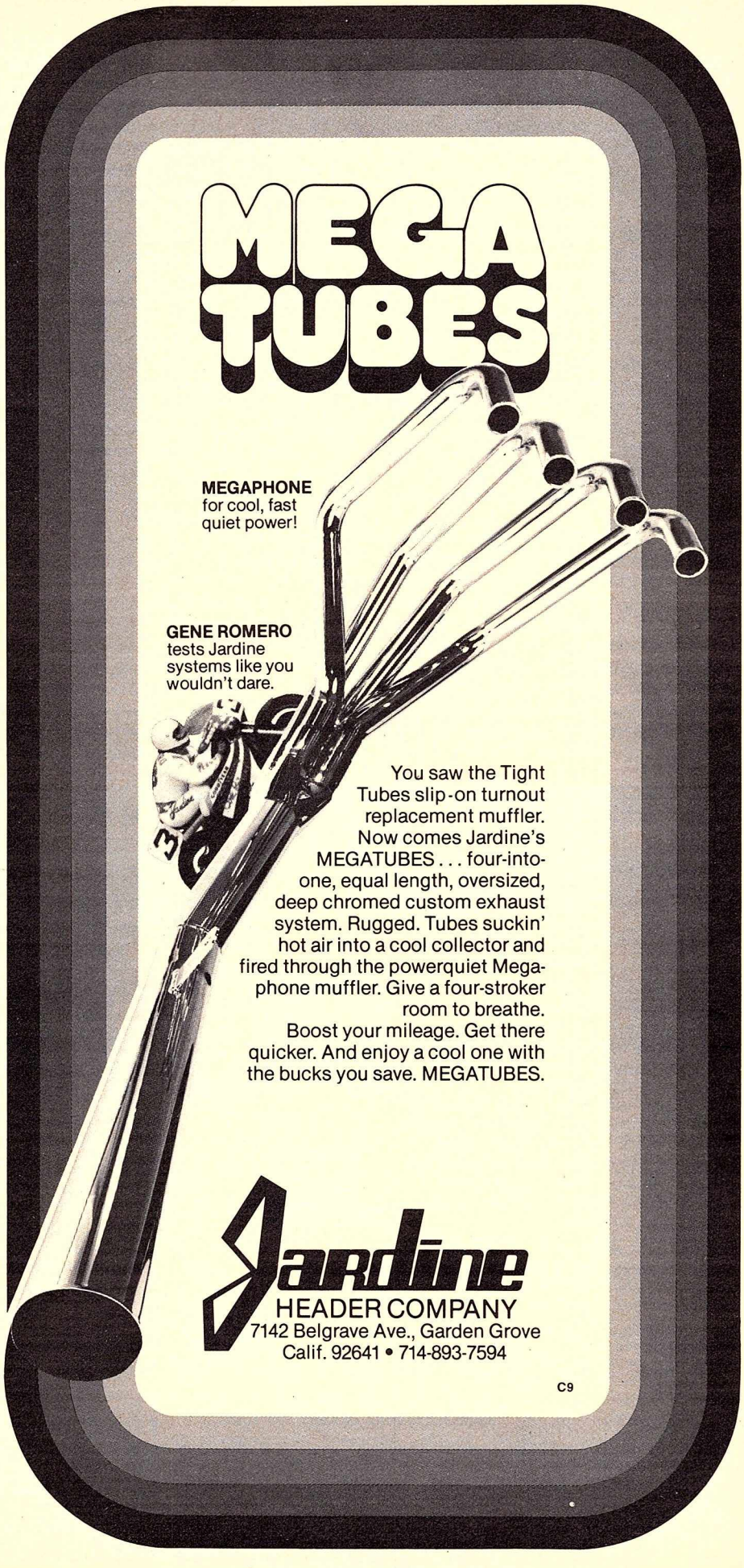
This carburetor body is the same as used on the YZR 500 GP racer, which has a much larger bellmouth attached to suit that engine's intake characteristics.

Roberts and Carruthers are committed to Lectron for carburetion, so their Powerjet carburetors were resting in the spares box. Roberts says the Powerjets try to accomplish what the Lectrons do better anyway, and who will argue with success?

Supporting the carburetor in the works machines is a special rubber intake flange, longer than the standard one and slightly curved as well. Efforts to stare

*(Continued on page 100)*


MEGA TUBES



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CIRCLE NO. 76 ON READER SERVICE PAGE.

**PITSIDE FEAR** .... *Continued from page 99*

fixedly at the inside of this little item while the carb was off in tech inspection were stymied by factory technicians with big rags, but reasonable conjecture says they are longer to allow more space to diverge the flow gradually from orifice to reed cage, and curved to remove at least part of the kink in the inlet tract. The factory rags probably concealed molded-in internal streamlining; no need here for half-measures such as library paste or gooey, power-robbing silicone filler.

What about Yamaha's own restrictor? Wasn't it on view even for a moment in tech inspection? Mechanic and inspector might have been two figures in a backstreet dope deal as the orifice was extracted and palmed to the waiting techie. He then pushed his no-go 23mm gauge in, and if it failed to penetrate, all was well. None of us was the wiser for craning, peering, or staring.

What might it be? Kryptonite? You can rely that it was something more sophisticated than the hot-rod funnel of Bulletin 78-1. Maximum airflow through the 23mm hole will be produced when there is no *vena contracta* at all, and no unattached, free jet downstream. This requires that the air enter the restrictor in parallel streamlines, and that the divergence downstream be very gradual indeed. Both of these requirements eat up length. Where can it come from?

A tall rider's knee is almost in contact with the carburetor now, so there's little that can be done to gain length here. The only rational approach is to push the restriction up inside the carburetor, as Lectron did, gaining length downstream.

Surely Yamaha's secret intake device included some of these features, used in concert to lead the air through the restriction with minimum disturbance. Whatever they were, they worked.

The Lectron setup used a shorty restrictor pushed into the carburetor, with a short, radiused outflow that looked wrong but didn't work too badly. This item was designed more for ease of manufacture and installation than for all-out flow. When asked if Roberts' first-place ride and Aksland's third-finishing bike were equipped with the entire Lectron package, the Lectron representative said only, "They used our carburetor." The Lectron restrictor made little attempt to maintain attached outflow into the manifold, and this probably saved it from being a "Little Seizer" with two possible flow regimes. Better to be either totally unattached or totally attached in outflow than to be both at different times.

Another promising device was that of Kenny Augustine, a four-stroke flow specialist who wants a toe-hold in the two-stroke world. His restrictor, in common with Yamaha's, took the all-attached approach but cleverly combined several functions in one machined piece inserted between carb and manifold, a bolt-on.

None of the answers was cheap. Carburetors at $300 a set, secret induction flow-raters at negotiated prices, but all, perhaps, cheaper than cylinders, cranks, and pistons. Even so, none of these answers was the complete one.

Aside from the induction side, the works machines of Roberts, Cecotto and Baker offered the usual detail refinements. Machined-from-solid front fork sliders sported clever hinged axle caps, retained by a single capscrew per side. This permitted the wheel/axle assembly to be dropped out straight down, no muss, no fuss. Motocross influence showed in the welded aluminum swing arms, which seemed to have their metal in the right places. Tiny rear brake discs showed factory appreciation that braking with modern tires leaves little or no weight on the rear wheel. The latest frames continue the upper loop tubes down past the swing arm attachment to form substantial footpeg mounts.

As always, the little things are endless. Lovely titanium screws to hold the coils on. Titanium sprocket nuts. Light-metal pedals with titanium linkage. Magnesium fork crowns.

The temperature probe screws into the right-hand cylinder head on stockers, but

*(Continued on page 102)*


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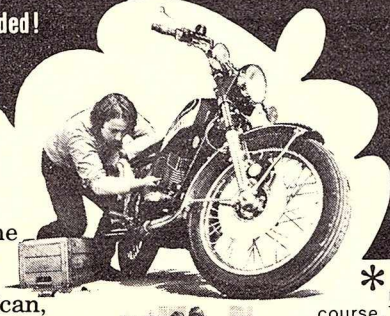

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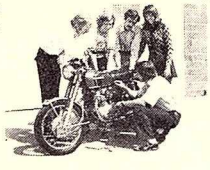

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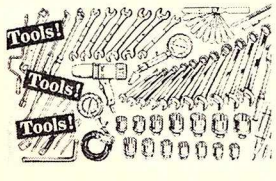


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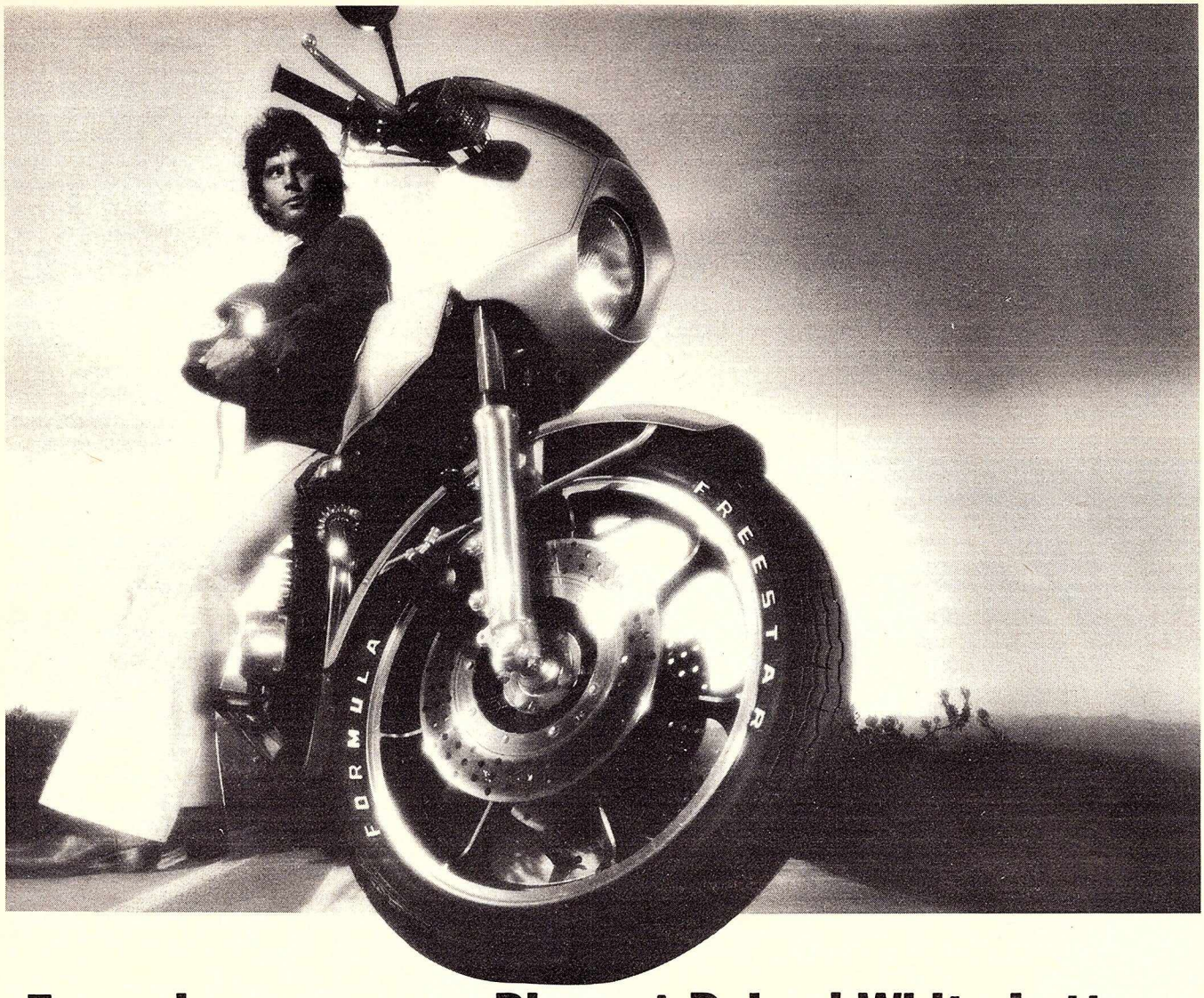


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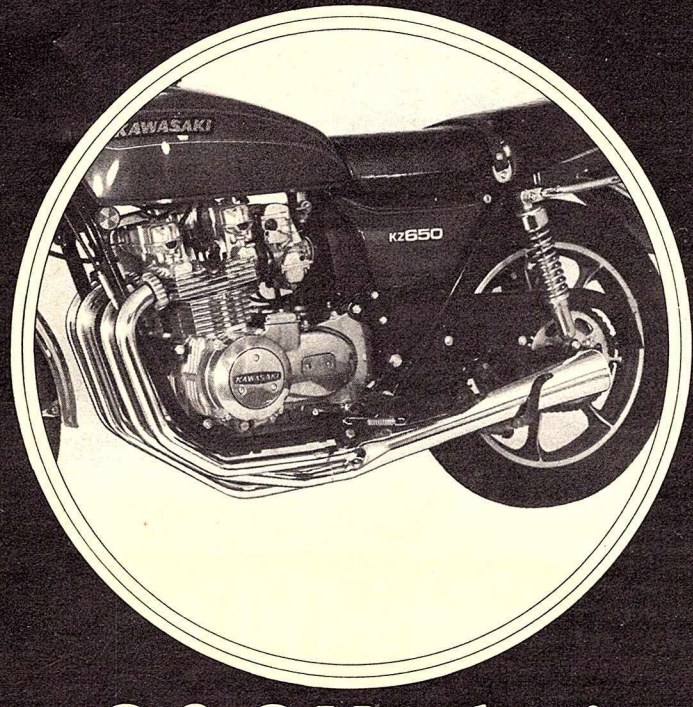


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**PITSIDE FEAR** .. *Continued from page 100*

the works machines have it fitted into the radiator, taking the average temperature and making cylinder-head removal easier.

Factory fairings included radiator exit air slots. It's much easier to get air up to the radiator than it is to induce it to pass through, so the slots give an attractive outlet, no longer obliging the heated air to billow up around the rider's hard-worked forearms or to infiltrate the carburetors. Roberts' machine had an additional deflector on the left side, just under his arm, to make the process more certain.

Last year's works tail sections had caudal-fin-like extensions, outward and downward, now copied by every maker of fiberglass in the entire world. For 1978 Yamaha arrives with entirely new seats, featuring flat sides, much as common sense and Harley's 1969 tunnel tests would indicate. Prices on caudal-fin copies have dropped sharply. Fashion, oh fashion!

Was the standard, over-the-counter TZ750E any different? Yes, but not as different as many riders had so naively hoped. First, some of the crates actually had the 'D' scratched off and 'E' inked over it. Second, the hardness of the crank gear-securing bolt tabwasher has definitely been increased (this is a fact, so don't laugh yet) and third, the captive weldnuts on the inside of the front motor mount plates have been replaced with conventional elastic stop nuts. Otherwise they are the same. The same wonderful, manageable, maintainable and forgiving big Yamaha.

Problems (orifice aside)? Yes, some trouble with piston pin circlips shedding their end tangs. Wisdom dictates at least frequent replacement and preferably running without the tangs entirely.

Much to the credit of new race manager Ken Clark, parts kits were included for the first time, as is standard in other parts of Yamaha's world, at additional cost. Because of the kits, the lines at the Yamaha parts window at Daytona were short and the service excellent. This is what happens when the job description for race manager no longer reads, "Applicant to sit in director's chair, scowl, and deny all requests for information or assistance." Many thanks to Mr. Clark.

Weren't there other machines in this race? The hard-working and professional team of Neville Doyle and rider Greg Hansford ran 2:08 laps in 1976 with their water-cooled Kawasaki KR750, but this time the best they could do was four seconds shy of that. Where did it go? I'll guarantee Hansford isn't slower. The Kawasaki's intake has less than an inch in which to locate the AMA orifice, a space in which a transition must also be made from round to square. Too bad. Nice machine, light, handles well, all refined now. It doesn't mean a thing. The orifice killed it dead. ◉

**DUCT TAPES** ..... *Continued from page 28*

which tire gets to the other side first. I had expected my front forks to gradually warm up, but they were frozen solid; I should have filled them with automatic transmission fluid. The frozen ruts were kicking the front every way but down, and it was only my talent and luck keeping the flat side off the ground. They both ran out on me at the same time.

We were on a dike between two frozen cranberry bogs and I just plain lost it. The bike dug in and parked and I slid down the side of the dike onto the ice and slid, and slid, and slid. I stopped about thirty yards from shore, flat on my back, spread-eagling my arms and legs to distribute my weight over the thin ice which was moving like a water bed under me. Kenny asked me if I was all right. As it stood, I was and I wasn't. Kenny said he was going back to the van to get our tie-down ropes, but I waved this idea off, moving only my hands from the wrists down. You see, Kenny didn't know where the hell we were, and it would either take Kenny two hours to find the van or it would take us two weeks to find Kenny. I could have broken through the ice, made my way to shore and divvied up Ken's dry clothes, but I'd done this once before and the suffering was just monumental.

So I walked, *walked,* on the cheeks of my ass and my shoulder blades, to shore. It took me twenty minutes.

So there.

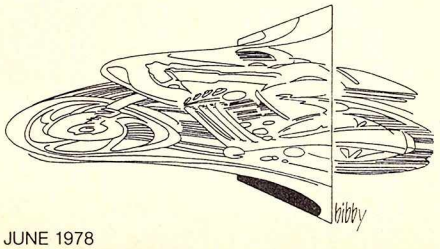
*—Ed Hertfelder*

**EDITORIAL** ..... *Continued from page 8*

effect on this country's population; force them to comply with the 1985 limit of 78 dB(A) and they'll be out of business here, for no good reason.

Who can help? You can. If your views about the EPA's proposed motorcycle noise emission rules match mine, or even if they don't, you can do yourself—and this industry—a lot of good by writing. Where? To Motorcycle Noise, EPA, Washington, DC 20460. Not long ago a letter-writing campaign orchestrated by the AMA and the MIC turned aside some extremely damaging off-road riding legislation that was brewing in the White House. More than 60,000 letters were received, and just in the nick of time. The same holds true here; comments are due by June 16th, so get right on it. It'll cost you a few minutes—and might make all the difference in the world.

*—Cook Neilson*





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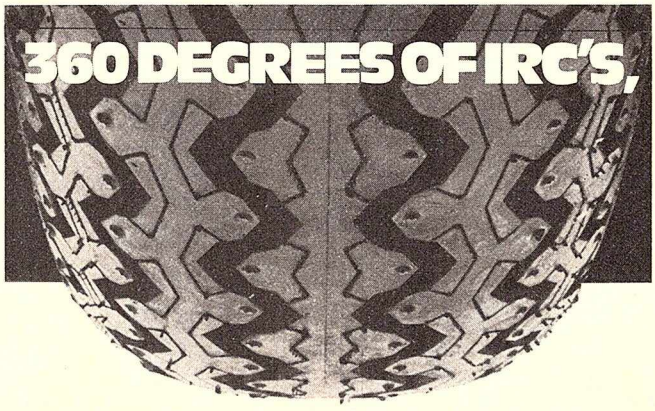


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CIRCLE NO. 33 ON READER SERVICE PAGE.

# BLOOD, SWEAT AND DUST

*A Backpacker's Two-Wheeled Tour Through Baja California, Complete With Storybook Scenery And Cliff-Hanger Adventure, Leads To The Burning Question: Which Way To The Hot Shower?*

By Don Phillipson

● BAJA JOURNAL, MONDAY, FEBRUARY 20, 8:30 A.M. *We have just located some Americans with four-wheel drive vehicles. They are leaving here for their homes in San Diego. They have agreed, most good-naturedly, to take Joe with them to a San Diego hospital. We estimate that it is about 100 miles of dirt road to the Trans-peninsula Highway, and from there about 250 miles to San Diego. I can only wish Joe the best of luck.*

*"The rest of our day will be spent riding north to pick up Joe's bike and tow it back.*

*"Strangely, our present concern is completely contradicted by our surroundings. The smell of coffee is drifting down from the kitchen. The sun over Bahia Gonzaga is still low, casting diamond-sparkling light on the calm water. The Pathetic Fallacy, that tendency to invest nature with empathic emotions, comes to my mind: somehow I expect dark storm clouds to loom over us and the wind to howl. But everything is quiet and the air cool. It's a perfect day for riding."*

Baja California offers the motorcyclist, no, demands that the rider succumb to, a rich variety of experience. Everytime a rider puts on his boots and helmet, wherever he is, there is an element of risk involved. Much has been made of this fact, noted by psychologists, sociologists and even our own motorcycle journalists. Magnify that risk tenfold when you decide to ride in Baja. The highways are not maintained; truck drivers three-quarters-drunk often use any convenient part of the road; and some sober but homicidal drivers simply don't like motorcyclists. When a real scrape occurs, there is no doctor or hospital nearby. If certain students of human nature are correct in believing that some people hot-wire reality by taking risks, then riding in Baja ought to rank as one of the ultimate highs.

But Baja offers more than just thrills. It is a different country, a different world, and all the experiences intrinsic to a sojourn in another country are involved. First and foremost is the battle with another language. Unless you're fluent in Spanish, every request made of, every comment made to, someone other than your riding companions must be well thought-out and important. The fight to communicate becomes a friendly tug-o'-war, and you tune in to your opponent's every move, every gesture other than his words. Understanding the other culture, however painful the process, cannot be avoided. If your meal order takes a half hour longer than you think it should, it is not your privilege to complain. If the bartender doesn't have cold beer, you settle for warm *cerveza*. If you're inexplicably embarrassed by the beggar at your sleeve, turn your head, but don't think you'll forget his face. Everyone comes home from Baja seeing himself a bit more clearly.

Baja also gives the motorcyclist virgin and just-barely caressed ground. This is always the reason people tacitly give for their trips to Baja: riding. There are long fireroads by the Pacific Ocean or by the Gulf, tight rocky trails up palm-studded *arroyos*, fast, gently rolling two-lane roads through pine forests, streams to cross, dry lakes, sand washes where whoops are non-existent, miles of pebbly beaches, sand dunes, wide-open desert. And riding dirt bikes on the Mexican highways provides a legal and novel treat. Undeniably, to ride Baja is one of the prime reasons to make the trip. But it is not the only reason.

* * *

Chuck Baker, Norm Stevens, Bob Burns, and their sons Chip, Jeff and Kirk, and Joe Frontera, approached me with the idea of a seven-day riding trip in Baja, which they undertake annually. Having long ago gained a sense of my own mortality, and realizing a trip to Baja has some inherent dangers, I hemmed and hawed and mentioned the load of work I really couldn't leave.

Before long, however, I changed my mind and accepted the invitation for a couple of reasons: Messrs. Neilson and Schilling were overjoyed at the thought of my going; and somewhere in the back of my mind, though I'm reluctant to admit it and though I don't know why, I heard a voice saying, "Go ahead, you know you really want to."

My preparations for departure were not as extensive as they could have been. I received my motorcycle, an IT250E, from Yamaha International on Thursday, the day before I was to leave. I took photographs of the machine (as it was also going to be a test bike), put a mile on it to break it in, tightened all the nuts and bolts, adjusted the chain and put flat-proof in the tires. We loaded the bike on a trailer that night, and I busied myself with packing camping gear and tools. I took clothes, a sleeping bag and ground cloth (for emergency use only; we were planning to stay in motels), a compass, a

PHOTOGRAPHY: DON PHILLIPSON, NORM STEVENS

Though the IT is somewhat heavy, it never fatigued the rider and proved to be reliable in every respect.

canteen, dried fruit and beef jerky, a knife and matches. For the motorcycle, I packed two inner tubes, tire irons, Seal 'N' Air, a 12-inch length of chain, two master links, a chain-breaker, eight pints of Yamalube, some duct tape, and the usual assortment of wrenches, pliers and screwdrivers. All this fit snugly in my backpack and came to a measly 52 pounds.

The week before our departure, California was busy changing the shape of its coastline during the wettest year since 1888. Countless homes, entire citrus groves, people, automobiles, dogs and roads all made their way lemming-like to the sea. Television weathermen, overjoyed by all the attention, only half-hid their smiles and sadistically reported that Baja was bearing the brunt of the storm. Several of us placed bets on when the peninsula would simply break away and float off to Hawaii.

Friday, D-Day, dawned bright and clear. Crossing the border, we bought Mexican insurance (a necessity: those without insurance involved in an auto accident in Mexico normally go straight to jail until the guilty party is identified). Midnight Friday, we reached Norm's beach hut in Maneadero, 20 miles south of Ensenada.

One of the hardest things about riding in Baja, or actually in any motorcycle-backpacking situation, is becoming accustomed to a fifty-pound monkey between your shoulder blades. In my particular case, the entire situation was aggravated because I cleverly decided to bring along the enormous pack I use to go "normal" backpacking. The pack has a fixed aluminum frame which, when I'm sitting on a motorcycle, rises to exactly the top of, and positions itself about 0.05mm behind, my helmet. I could turn my head side to side; there was no way in Shoei's world that I could tilt my head even one degree back.

Saturday morning we rode the pavement to Ensenada (population 80,000; third largest city in Baja) for breakfast. This was the time to begin convincing myself that I *liked* refried beans with every meal. We rode another stretch of pave-

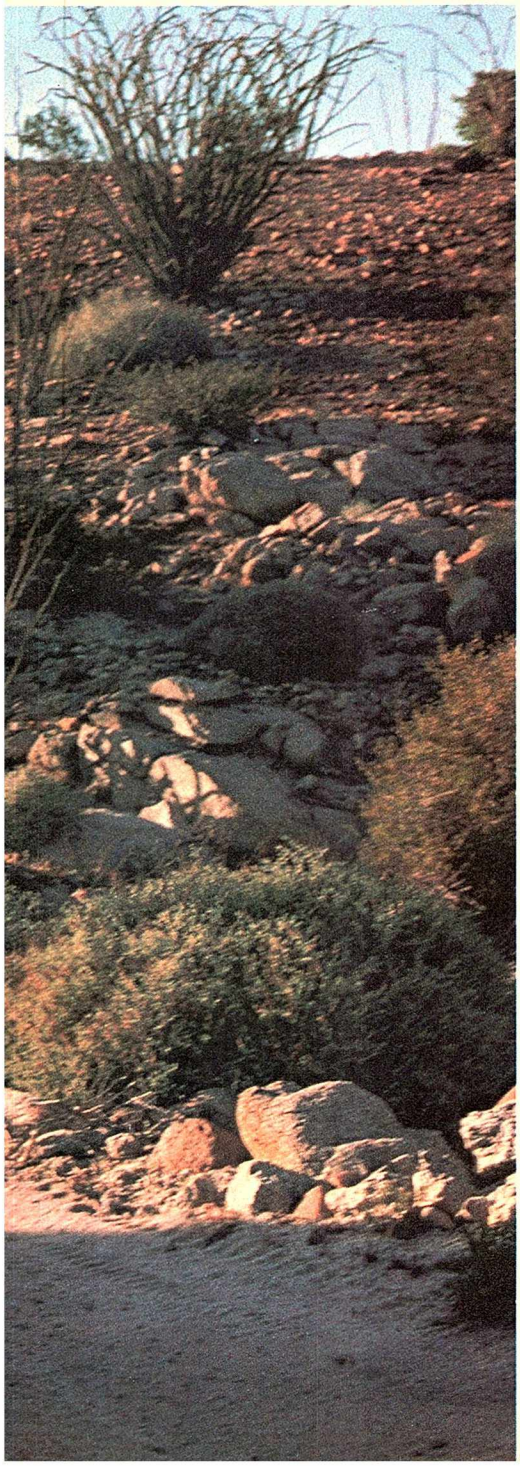
ment out of Ensenada to Ojos Negros. So far we had only ridden asphalt (excluding some parts of the city which were under construction). Leaving Ojos Negros we first set rubber to dirt.

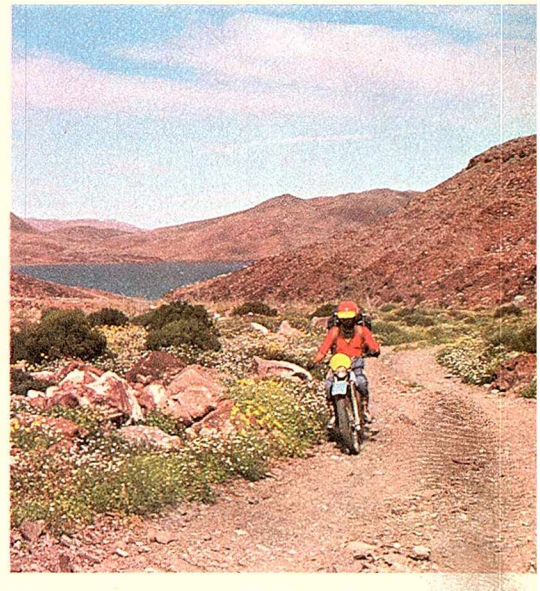
Dirt riders (for the benefit of you curious street riders) often stand up on the footpegs, their rear ends anywhere from two to ten inches from their bikes' seats. They do this to let the rear suspension of the motorcycle absorb larger bumps without having the seat slowly flatten their vertebrae. It took me about 100 yards of dirt riding to observe a heretofore personally unobserved phenomenon: when the typical rider stands on his footpegs in anticipation of a large bump, his body tilts slightly forward. Unconsciously, the rider also slightly tilts his head back in order to retain a view of the ground in front of him.

I saw a low spot in the dirt road (which sufficed in the absence of a large bump) filled with water. The low spot extended in the east and west directions out of my sight. Slowing down to cross the low spot never occurred to me; I had, after all, just watched Kirk Burns, not far in front of me, gracefully lift his front wheel and splash across. So I knew the low spot wasn't too deep. Several yards in front of the water I stood on the footpegs, preparing myself to pull on the handlebar, and found myself staring at the IT's bright blue front fender, while some invisible giant's hand pushed my head forward.

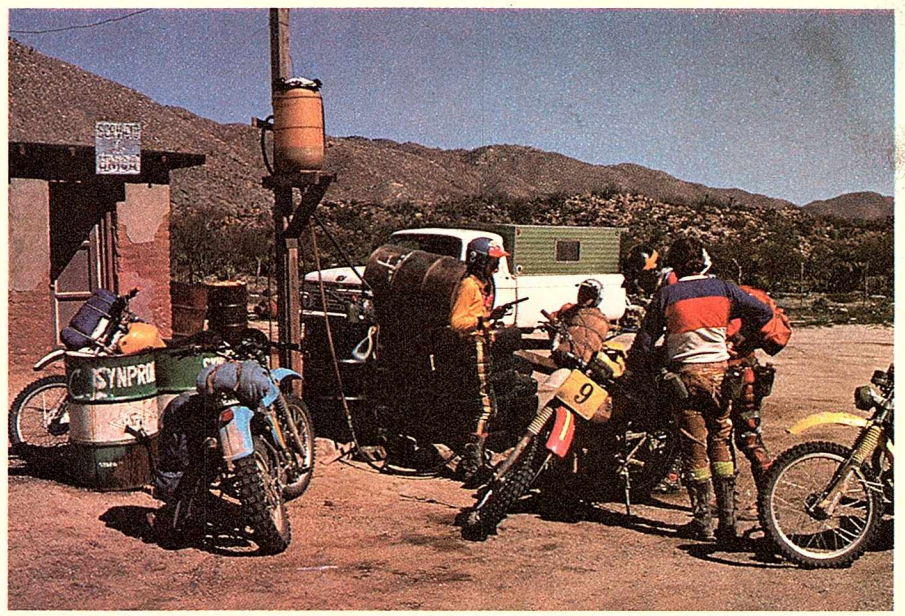
Reflexes are a wonderful part of the human anatomy; they have saved me from many automobiles. But once in a while reflexes make you do something you regret. Riding is nearly reflex: See bump, stand, tilt back head slightly (unconsciously), hit bump, sit. Simple. Until something interferes. Your mind isn't really working; your reflexes are. So when something interferes, you don't think, your body simply halts all functions, because reflexes *react.*

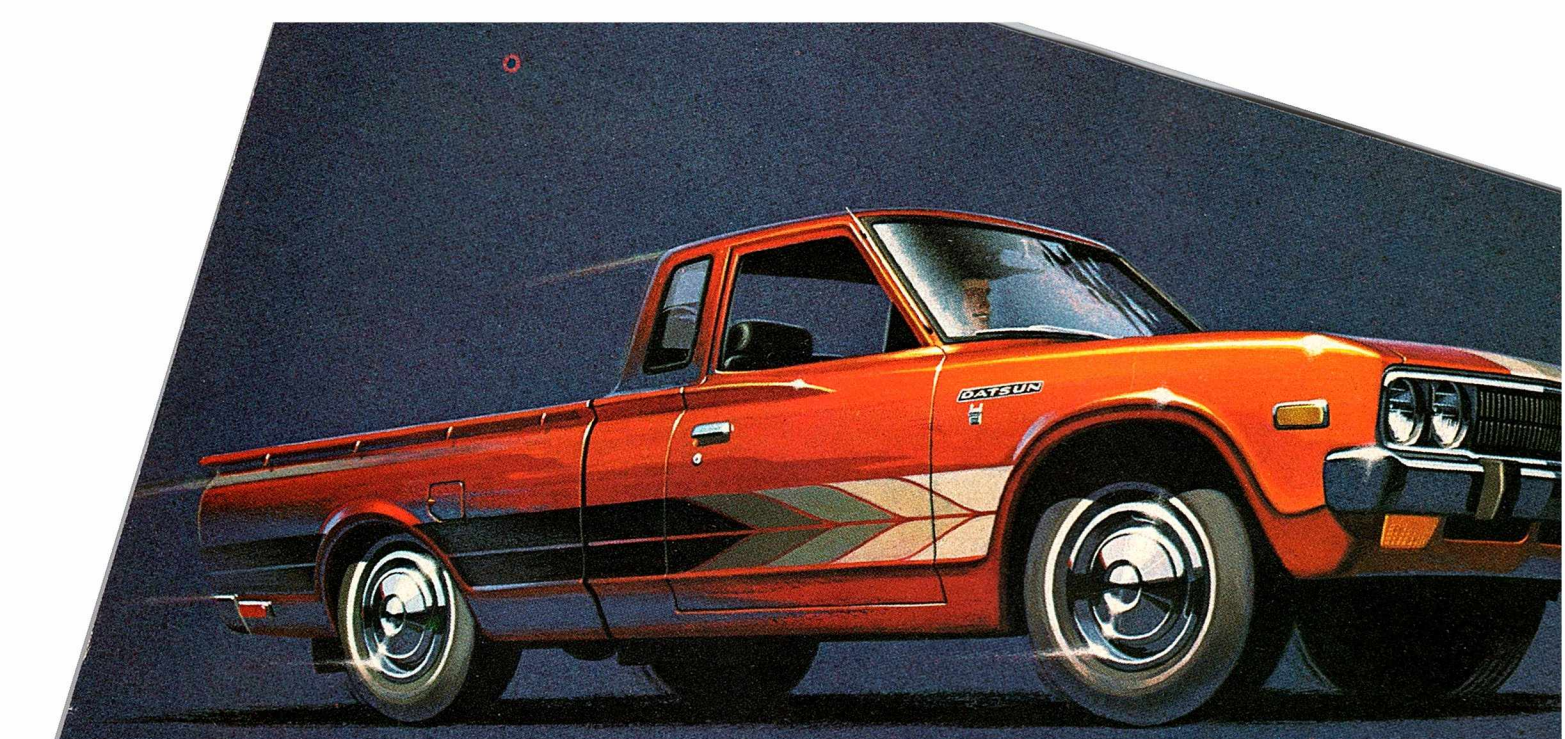
I stared at my front fender for just a split second, realized something was dreadfully wrong, backed off the throttle, sat down, saw the water-filled low spot two or three feet in front of me, appraised the situation as critical but did not quite understand how it had become so and could





(Left) Riding without packs was a pleasure and allowed the rider to enjoy the typical two-lane roller coaster. (Right) With the Sea of Cortez in the background, vicious rocks all around, and fields of flowers to counterpoint the scene, Baja California offers both challenging terrain and outstanding scenery. (Below) A stop at a typical filling station involved hand-pumping gas to the see-through plastic bottle—with liter gradations hand-marked on the side—and letting gravity do its job.



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# DATSUN.
## WE ARE DRIVEN.

*"Keep thinking big, Datsun."*

CIRCLE NO. 28 ON READER SERVICE PAGE.

not stop my reflexes when they kicked into gear again. I stood up and helplessly watched my front wheel slice through the river. I didn't fall. I was just painlessly drenched. As we were preparing to make the climb into the National Forest, full of pine trees and snow, being soaked to my kidney belt was not amusing.

On the long sandy fireroad which became a fast mountainous trail, I rode with my legs apart to dry my leathers. But once we were in the mountains proper, the joy of riding took my mind off physical discomfort and overcame us all. There were many washed-out spots from the recent deluge, and plenty of snow. We stopped a few times just to tell each other how good the riding was, each thinking the other person couldn't possibly be appreciating this as much as he. These mountains, which are actually a southern extension of the Sierra Nevada range found in California, were absolutely beautiful, silhouetted purplish-sienna, dotted with green against a deep blue sky.

Much of this trail through the mountains and down from them follows the various Baja race courses. We followed SCORE arrows from the recently-run Mexicali race and soon found ourselves in the desert flat land, which was covered with huge boulders and towering cacti. At the 100-mile point for that day we entered La Independencia for food and gas.

After lunch we headed south through Valle Trinidad, making our way across our part of the 800-mile long peninsula. We passed under the shadow of Picacho del Diablo, elevation 10,126 feet, and highest point in Baja California. On a peak near Diablo, the Mexican government has erected an *observatorio* to take advantage of the cleanest, clearest air in the western hemisphere. We crossed Diablo Dry Lake, miles and miles long. We wound our way east from the Dry Lake up axle-deep sandy trails bordered by cacti claiming esoteric names. There are over 100 species of cacti in Baja, and 75 of those are found nowhere else in the world; the size of these unique plants, fully matured, range from less than two inches to 80 feet.

At some point, hard to identify, the ground rising away from the Dry Lake leveled and began a descent toward San Felipe. Meanwhile the Gulf of California came into view. And it was a sight no less-welcome than any oasis is to any desert traveler.

At precisely the moment I saw the Gulf, I gave a great sigh of relief: the day's travels were nearly done. Seconds later my minor ecstasy was unaccountably disturbed. My whole being sensed that something was wrong, like the vague irritability just before you discover you have a headache. I tilted my head back and forth, thinking maybe there was some new outside danger near. Then I pinpointed it: I seemed to have sat on a railroad spike. I stood up, to lessen the pain, and looked at my front fender. No good.

Mastering my instincts, I slowed down and stopped, remaining seated the entire time. I dismounted. This was a definite problem. You may make snide remarks about the leathery toughness of my behind. I assure you, no part of my body flinches at the thought of a paltry 200 dirt/street miles. Yet, the pain was exactly what you'd expect from an overdose of travelling, as if I had been insidiously stabbed or set afire.

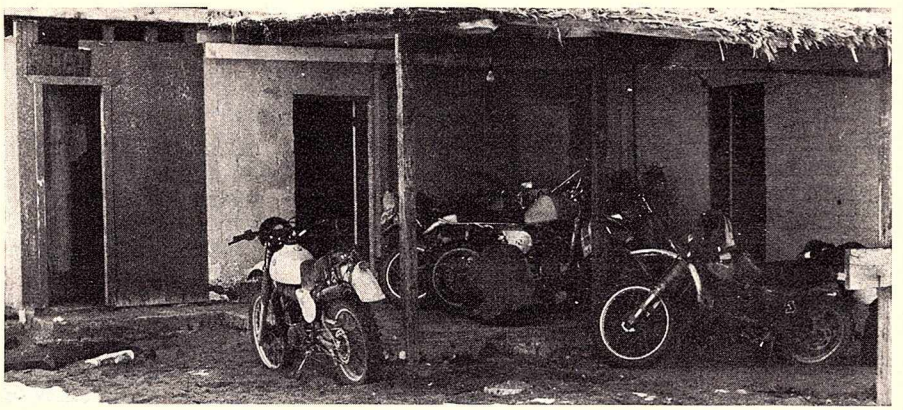
I rode into San Felipe, about 20 miles, standing two inches off the seat, turning half around and cocking my head entirely sideways to use my peripheral vision to see ahead. I was tired and cramped when I got to the city. The odometer registered 193 miles for the first day's ride, a fair jaunt, undeniably, but not long enough to completely locally anesthetize any bodily region.

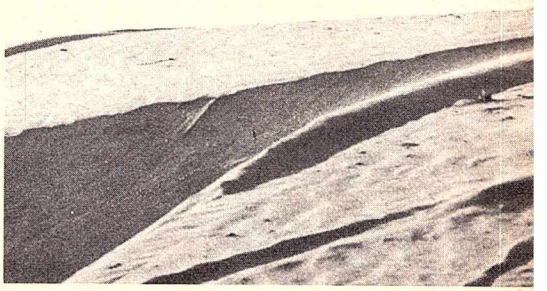
Believing in thoroughness, I undressed and began a painstaking search. In a matter of minutes I located the problem. In the back of my leathers there was a point at which four seams came together and at which leather attaches to nylon. To ensure longevity of the seams, one of Malcolm Smith's seam-persons did not sew the thread too near the edge of the leather. The stitching was a good half inch from the edge and left a hunked-together confusion of golf-ball-like loose ends at exactly the spot upon which one of the tenderest spots of my body would rest for ten hours. With a quick bit of surgery (frowning all the while—clothing-induced physical pain is unforgivable), I removed the excess leather and nylon and covered the rest with duct tape.

That night we feasted on shrimp and toasted with many *cervezas.* But hotel space was scarce, and we had to crowd into two rooms and pull mattresses from beds and sleep on the floor. And our rooms lacked hot showers.

Chuck and Norm woke us Sunday morning and we began the short but difficult ride south. Our trail, for the most

*(Continued on page 112)*





Our plush accommodations (top) at Alphonsina's. Several lanterns were distributed at night as there was no electricity. Barely visible sign over door at left said "Toilet." (Above) Joe Frontera about to make his move around Norm. Smooth fireroads like this one encouraged peak-rpm running. Another view of the sand dunes (right) shows Norm Stevens flying the IT.

part, paralleled the Sea of Cortez (which, until recently, was named the Gulf of California). Shortly out of San Felipe, Chuck suffered the first bike trouble: a flat rear tire. After fixing it, we followed a very fast sandy fireroad into the rocky hills preceding Puertecitos, which is a getaway-from-it-all American resort with signs such as "Caution: Adults At Play" dotting the incoming road.

After a long lunch we turned south again, through some of the toughest bike-roaching terrain in Baja. The road south from Puertecitos is a tire manufacturer's nightmare: fast and rocky. Jeff got a flat tire about three miles out. *En masse,* we stopped and waited. Halting as a group for bike troubles is necessary if you have any intention of staying together, but the waits are tedious. From there we wound through the hills, tackling continuous staircase-like ledges of rocks.

Spring comes early to Baja and fields of yellow and purple flowers surrounded us. My usual practice was to gain some ground on our party, whip out my camera, and photograph everyone as they rode by. As we neared Alphonsina's with the idea of a hot dinner and a cold drink firmly in our heads, our trail pace picked up.

I was riding hard on a fast, rocky fireroad. Joe was directly behind me; on some turns I could see his front wheel poke into view on my side. In front of us was a jagged-rocky hill, one of the last real barriers between us and the smooth section into the motel. I climbed it, dropped into a shallow *arroyo,* and stopped quickly, unpacking my camera. No one was behind me. I waited; it was not unusual for everyone to have stopped for any number of reasons, leaving me four or five minutes ahead. For what seemed an eternity I waited with camera poised, until the crystal-clear feeling came to me that something was wrong.

I later learned that Jeff had been the first one to find Joe, sprawled out in the fireroad. He had cut a corner by inches and had gone through some low brush. His rear wheel caught a foot-high rock and sent him flying. Luckily, he went over a pile of rocks and landed in the relatively smooth road. It appeared as though he landed fully on his side, perhaps with his left arm under him.

Dusk was coming on and we had to move fast. Joe could move his fingers and walk, and he had not gone into shock. We hoped he could ride Chip's relatively docile MR175. As Joe struggled to make his way with the 175 up another rocky section, we started his Husky 400. After some coaxing, it fired and immediately jumped to peak-rpm, its throttle stuck wide open. Pushing the kill button did nothing and before anyone's arm could take the kamikaze dive to the spark plug wire, the bike gave a shudder and quit. We tried the kick starter and it floated through its stroke.

We stared at each other in disbelief, thinking these were the events which would later become memorable fireside stories. But for now, the situation seemed ominous.

Kirk, Chip, and Jeff took off for Alphonsina's to get us rooms and order meals. After we ditched Joe's bike, Bob followed them; he didn't have lights on his bike and had to get to camp before dark. The rest of us redistributed packs so that Chuck could ride Joe double. We began our grim 15-mph journey.

Nearly an hour after dark, we arrived at Alphonsina's. Joe, with the aid of some pain killers, went to sleep. We went to dinner. There are no phones or telegraph at Alphonsina's, so any move we might make would have to wait until morning.

After our meals, as we milled quietly about, a gun shot rang out. We rushed over to our huts and saw Luiz, the manager of Alphonsina's, standing, holding a rifle, staring toward the bay.

"Bandidos," he calmly, simply said.

In Baja, people who steal boats are dealt with summarily.

Monday, we luckily found some Americans, the Bill Jordan family, who were returning immediately to San Diego. They generously offered to take Joe to a hospital there. We were relieved; Joe's side was, if anything, worse, and his arm had not loosened up as we had hoped it would.

After wishing them a safe trip, we made plans to pick up his bike. I rode Chuck double up the coast and Norm followed with a tow rope. Bob and the three youngsters anticipated hiking around Bahia Gonzaga, appreciating the unexpected day of rest.

That night, Mexican workers from the surrounding areas came to Alphonsina's. Most of them came to the bar and sat in the familiar pose of the young, *macho* Latin, with legs spread far apart, feet pointed outward, forearms across the thighs, one hand dangling, the other loosely holding a fresh cerveza, head up, eyes sanguinely alert.

We practiced our Spanish with these friendly men, most of them terribly poor, and watched out for their infamous bar

*(Continued on page 114)*

Chuck and Chip Baker (top) endured one portion of the rocky section between San Felipe and Bahia Gonzaga. During some fun on the sand dunes (left) Kirk Burns got a little out of shape. The same jump proved to be Phillipson's downfall. (Left) Chuck towed Norm and an incapacitated Husky.

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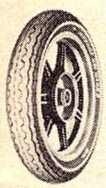
### Dunlop K88, K88HT

This tire won more AMA pro motocross races in 1977 than any other tire. Use the K88 HT for hard surfaces.

| | |
|---|---|
| 5.00 x 17 | $34.59 |
| 4.00 x 18 | 33.17 |
| 5.00 x 18 | 40.36 |
| 5.10 x 18HT | 44.09 |
| 3.25 x 21 | 33.37 |



### Dunlop K91 MKII

High mileage superbike tire featuring KEVLAR bias belted construction. Designed to be run with or without tubes.

| | | |
|---|---|---|
| 5.10 | H-17 | $61.85 |
| 4.25/85 | V-18 | 54.65 |
| 5.10/80 | H-18 | 58.48 |
| 4.10 | V-19 Rib | 47.42 |

### Dunlop K-81(TT100)

Trigonic, low profile. Front or rear superbike tire. Made in U.S.

| | | |
|---|---|---|
| 3.60 | H-18 | $35.01 |
| 4.10 | H-18 | 40.74 |
| 4.25/85 | H-18 | 43.80 |
| 3.60 | H-19 | 37.24 |
| 4.10 | H-19 | 41.63 |

### Dunlop K-87 /K87 MK II

Developed specifically for the rear of high powered street bikes.

| | | |
|---|---|---|
| 5.10 | H-16MKII | $40.77 |
| 4.50 | H-17MKII | 36.00 |
| 3.50 | S-18 | 30.64 |
| 4.00 | S-18 | 33.48 |
| 4.00 | H-18MKII | 38.24 |

### Dunlop K81 MKII

Newly designed superbike tire providing large contact patch at all riding angles. Available in blackwall or raised white letters.

| | | Black Wall | White Letter |
|---|---|---|---|
| 5.10 | H-16 | $45.06 | $50.04 |
| 5.10 | H-18 | 46.87 | 52.06 |
| 4.10 | H-19 Rib | 43.71 | 48.53 |

### Heavy Duty Tubes

Butyl tubes with heavy duty vulcanized valve stem.

| | | | |
|---|---|---|---|
| 3.50/4.00 x 8 | $3.69 | 4.50/5.00 x 17 | $4.69 |
| 3.50/4.00 x 10 | 3.99 | 2.25/2.50 x 18 | 3.29 |
| 2.75/3.00 x 14 | 3.19 | 2.75/3.00 x 18 | 3.59 |
| 3.25/3.50 x 14 | 3.49 | 3.25/3.50 x 18 | 3.99 |
| 2.25/2.50 x 15 | 2.99 | 3.75/4.25 x 18 | 4.39 |
| 2.25/2.50 x 16 | 3.29 | 4.30/5.10 x 18 | 4.49 |
| 2.75/3.00 x 16 | 3.69 | 2.75/3.00 x 19 | 3.69 |
| 3.25/3.50 x 16 | 3.79 | 3.25/3.50 x 19 | 4.29 |
| 5.00/5.10 x 16 | 5.69 | 4.00 x 19 | 4.79 |
| 2.25/2.50 x 17 | 3.19 | 2.75/3.00 x 21 | 3.99 |
| 2.75/3.00 x 17 | 3.29 | 3.25/3.50 x 21 | 4.29 |
| 3.25/3.50 x 17 | 4.49 | | |

Continental and Michelin Tubes also available
Tubes shipped with tire purchases only

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### Goodyear Eagle H/P

Low profile (/85), high speed tire available in tube or tubeless type.

| | Black Wall | White Letter |
|---|---|---|
| 3.50 x 18 | $42.10 | $52.95 |
| 4.00 x 18 | 46.30 | 56.95 |
| 4.50 x 18 | 49.70 | 60.15 |
| 3.50 x 19 | 38.20 | 49.15 |

Tubeless slightly higher

### Goodyear Eagle A/T

Low profile, street/touring tire available in tube or tubeless type.

| | Black Wall | White Letter |
|---|---|---|
| 5.10 x 16 | $50.00 | $62.50 |
| 3.50 x 18* | 38.90 | N/A |
| 4.00 x 18 | 43.70 | 54.80 |
| 4.50 x 18 | 47.50 | 58.40 |
| 3.25 x 19 | 36.10 | 47.20 |
| 3.25 x 19 Rib | 37.20 | 48.20 |

*Tubeless not available this size

### Goodyear Eagle G/T II

Low profile, street and long distance touring tire available in tube or tubelss type.

| | Tube Type | Tubeless |
|---|---|---|
| 5.10 x 17 | $58.90 | N/A |
| 4.00 x 18 | 51.50 | N/A |
| 4.50 x 18 | 54.90 | 59.90 |
| 3.50 x 19 Rib | 42.50 | N/A |
| 4.00 x 18 Rib | N/A | 57.40 |

### Avon Roadrunner

Low profile, high performance superbike tire with exceptional wear properties.

| | | |
|---|---|---|
| 5.10 | H-16 | $53.95 |
| 3.60 | H-18 | 44.95 |
| 4.10 | H-18 | 52.50 |
| 4.25/85 | H-18 | 53.25 |
| 4.70 | H-18 | 56.95 |
| 3.60 | H-19 | 46.50 |
| 4.10 | H-19 | 52.50 |

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| Bridgestone | Metzeler |
| Carlisle | Michelin |
| Continental | Nankang |
| Dunlop | Yokohama |

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### Continental K112

Extra long wearing superbike rear tire mfg. in Germany.

| | | Tube Type | T'less |
|---|---|---|---|
| 5.10 | H-16 | $55.61 | N/A |
| 4.50 | H-17 | 55.04 | N/A |
| 3.50 | H-18 | 45.54 | N/A |
| 4.00 | H-18 | 51.94 | N/A |
| 4.25/85 | H-18 | 53.11 | 61.00 |
| 510/80 | H-18 | 53.99 | 62.46 |

### Bridgestone S21R

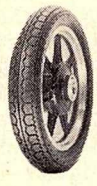
Stock superbike tire on many imported machines. Excellent traction and mileage.

| | | |
|---|---|---|
| 5.10 | S-16 | $40.36 |
| 4.50 | H-17 | 39.17 |
| 3.50 | S-18 | 27.62 |
| 3.75 | H-18 | 31.91 |
| 4.00 | H-18 | 33.24 |

### IRC GS-45F/56F

MX tire for dry and hard surfaces. Special profile and compound provides excellent cornering and acceleration.

| | |
|---|---|
| 4.10 x 14 | $24.19 |
| 5.10 x 17 | Soon |
| 4.10 x 18 | 38.26 |
| 4.50 x 18 | 46.48 |
| 5.10 x 18 | 47.10 |
| 3.00 x 21 | 34.64 |



### Michelin M45

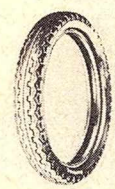
Designed for high torque acceleration and braking. Superior wet and dry road grip, front or rear.

| | | |
|---|---|---|
| 3.50 | H-18 | $39.39 |
| 4.00 | H-18 | 47.16 |
| 4.25/85 | V-18 | 52.01 |
| 3.50 | H-19 | 44.46 |

### Metzeler Rear

Touring Special (a), Touring Speed(b), and Block C7(c)

| | |
|---|---|
| 4.50 H-17(a) | Soon |
| 4.00 H-18(a) | $57.60 |
| 4.00 V-18(c) | Soon |
| 4.10 V-18(c) | 59.20 |
| 4.25 H-18(b) | 54.40 |
| 4.70 H-18(b) | 56.00 |
| 5.10 H-18(b) | 57.60 |



### Nankang N-752

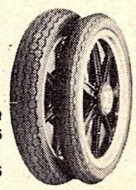
Low profile, K-81 type.

| | |
|---|---|
| 5.10 x 16 | $30.85 |
| 5.10 x 17 | 35.50 |
| 3.50/85 x 18 | 21.35 |
| 4.00/85 x 18 | 27.15 |
| 4.25/85 x 18 | 29.10 |
| 4.50/85 x 18 | 32.55 |
| 5.20 x 18 | 34.00 |

### Nankang N-741

Patterned after the Dunlop K-87, the N-741 makes a great replacement road tire.

| | | | |
|---|---|---|---|
| 3.00 x 17 | $16.15 | 4.00 x 18 | $27.05 |
| 3.50 x 17 | 21.15 | 4.25 x 18 | 29.00 |
| 3.00 x 18 | 16.35 | 4.50 x 18 | 32.45 |
| 3.50 x 18 | 21.25 | 3.50 x 19 | 23.20 |



### Carlisle Street

Popular matching street tires feature a stable block pattern which promotes excellent traction and mileage.

| | Tube Type | T'less |
|---|---|---|
| 5.00 x 16 | $37.21 | $42.27 |
| 3.50 x 18 | 30.75 | N/A |
| 4.00 x 18 | 32.16 | 36.70 |
| 4.50 x 18 | 38.86 | 42.90 |
| 3.25 x 19 | 30.24 | 34.04 |

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**BLOOD, SWEAT**.....*Continued from page 112*

tricks. One of these ploys is to generously buy you a beer. Or two. Or three. Then insist that you reciprocate. Fine. Until you find out that he buys beer for 40 cents a bottle and you buy it for 70 cents. The bartender makes out on the higher price and continues to offer it to the locals for less in appreciation for services rendered. It's the downhome version of the big corporate kickback.

Tuesday was our play day. We cut a 140-mile loop south out of Bahia Gonzaga to Punta Prieta. *Without packs.* There is a sense of relief woven into that phrase which words cannot express. *Without packs.* Speaking purely of the quality of riding, Tuesday was the best day. Think of a day when everything goes right: no mechanical troubles, delightful terrain and perfect weather. We were even blessed with lunch in the modern cafeteria at Punta Prieta.

Back to Alphonsina's in time for a good shrimp dinner, we passed the evening without incident. That night, however, I awoke to the sound of a bear in my room. I was petrified. But, like Davy Crockett at the Alamo, I bravely decided to exit fighting, if only in combat with some scraggly bear. I slowly reached for my hunting knife, trying not to make a sound. As my arm fully extended and my fingers still grasped thin air, it occurred to me there are, to my knowledge, no bears in Baja. But I was sure of the sound. I found some matches, lit one, and was appalled to see that the sound came from Norm (as ever, we slept anywhere from three to five in a room).

Snoring, I am convinced, is one of the most serious design flaws in the human construction. It poses profound yet ultimately unanswerable questions. Does the snoree have the right to wake the snorer? If so, *how many times?* Most snorers are accustomed to being awakened rudely, and one time is usually accepted magnanimously. But wake him three or four times and suddenly the snoree is on trial: "What's wrong with you? Insomnia? It's not my fault if you can't sleep." The problem is confounded by the fact that, though the snorer obviously stops snoring when awakened, he will resume the call in anywhere from 12 to 60 seconds. And the snoree knows it. He must concentrate on getting to sleep fast or suffer the consequences.

Wednesday, after stashing Joe's bike in a room, we made our way back to San Felipe. Though I was tired from lack of sleep, the day's ride went well and we were all cheery at the thought of a hot shower.

Of all things in this world, a hot shower almost ranks as the supreme sensual pleasure. Remember, this was Wednesday. Sunday through Tuesday nights were spent in Bahia Gonzaga, where the closest thing to a hot shower was an outdoor faucet that spat eye-stinging cold salt water. Our last shower had been on Friday. Think of finishing a 100- or 200-mile dusty ride and simply going to bed. Think of doing it four or five days in a row. Now think of a hot shower.

When we arrived at San Felipe I wanted most, in all this world, to merely languish in hot water. Everyone else (except Chuck, who had crashed that day and cut his leg) wanted to go ride on the sand dunes. Being somehow duty-bound to capture on celluloid all aspects of this trip, I smiled and nodded and went to the sand dunes.

We had a grand time until the young hot shoes Jeff, Kirk and Chip started showing off on a jump at the top of a hill. I made a tentative run at this personally-incomprehensible but creative form of suicide and launched a good ten inches skyward. Feeling a trifle humiliated, as everyone else was going six or seven feet vertically and 30 or 40 horizontally, I tried again. I must have been thinking of hot showers or *cerveza* or something because I committed a grievous pilot-error: I never let off the gas. Norm, to whom I had handed my camera to record the event for posterity, had the area of the jump precisely in the viewfinder. He never saw me. I went cleanly over that viewfinder-area and sailed into the netherworld of cacti and other viciousness well beyond the touchdown spot for normal people. There was just sand to land in, and the only thing to hurt me was the traitorous beast, my motorcycle, which managed to land both under and on me, a rare feat performed only because I never unwrapped my legs from around the bike.

Shortly after as we sat in the bar and I thought about my upcoming hot shower, we toasted the weather, Baja, motorcycles and many other things in general that I can't quite remember. Finally, I went to my room, turned on the hot water, stared at it through narrowed eyes like a thief ogles the Crown Jewels, and said, "I can step in there anytime I want." Nothing heightens the pleasure of an experience like anticipation. Scalding water hit five days worth of dirt and grime and sweat, my hair slicked down then expanded, I felt like screaming at the top of my lungs, every muscle relaxed, I couldn't stop grinning, I poked my head out of the stream and opened my eyes just to verify reality, damn, this was *too* good.

Our final riding day was to have been Friday, but we lost a day at Bahia Gonzaga to tow Joe's Husky back (thus shortening the distance we could go south), and Chuck—still nursing a very sore leg—opted to go back on the highway and Chip accompanied his father. Consequently we decided to ride back to Maneadero Thursday. But we did not want to miss Mike's Sky Ranch, a resort nestled high in Baja's mountains with trout fishing nearby and a pool on the premises. Mike's has an excellent bar with

as much ambience as any in the world, an atmosphere gained from various articles left by a host of visiting off-road riders. So we chose to make it a long day and planned to cut west from San Felipe, then slightly south to Mike's, and then, if we ran late, north on Highway 1 to Maneadero.

We ran late. Just as the sun went down, we took the last fork and left the dirt road, dropping onto the Highway south of Colonet. It was nearly 100 miles to Norm's place on the beach. Bob, Kirk, Norm, Jeff and I put on our extra clothes for the cold ride ahead. Norm's bike had a good halogen light and the IT's light was acceptable, though barely so. The other bikes didn't have lights.

This 100-mile section of pavement was the most dangerous part of the entire trip. We had just ridden nearly 150 miles of dirt. We were cold, hungry and tired. Mexican highways are reasonably safe during the day, unless some driver decides he doesn't like motorcyclists. Two years ago, a friend of mine, Dick Miller, while practicing for the 1000, was run over by a truck—intentionally. His leg was nearly torn off and the doctor, when he was finally airlifted to San Diego by the Coast Guard, wanted to remove it. Dick said no, and endured months of suffering and continuous operations on the chance he might save it. He did. But the thought of his plight raced through my mind as we started up the highway—with five bikes and two lights.

I led our little group, occupying the front-left position. On my right Bob used the IT's yellow path. Norm, with the brighter unit, had both Jeff and Kirk following him. As we droned on, trying to keep a necessarily steady speed, we began to run into fog and low clouds from the coast. The air grew colder and wetter and we grew number. Oncoming cars posed the most serious problem (at least in my opinion, but that was probably because I was in the first-to-die pole position). When one neared, I would hold steady until he was fifty feet ahead. Then I would chop the throttle enough to drop just behind Bob, giving me an avenue of escape on my right. I didn't like the idea of a 500-pound obstacle on my right in the event the car swerved. But then Bob didn't like the idea of riding without benefit of any light. So I would just waver slightly and nudge him every time a car came at us. At our speed of a little over 40 mph, this went on for over two hours. It seemed like all night. But eventually we began to see familiar sights and our spirits rose. We began to stand and stretch to ease the cramps. We rode into Maneadero safely if not wholly comfortably.

When we got back to the Los Angeles area, we immediately tried to contact Joe at his home. Through various channels, we learned he was still in the hospital. He had suffered six broken ribs, a broken elbow, and a punctured lung. He would be there until his condition stabilized. ◉


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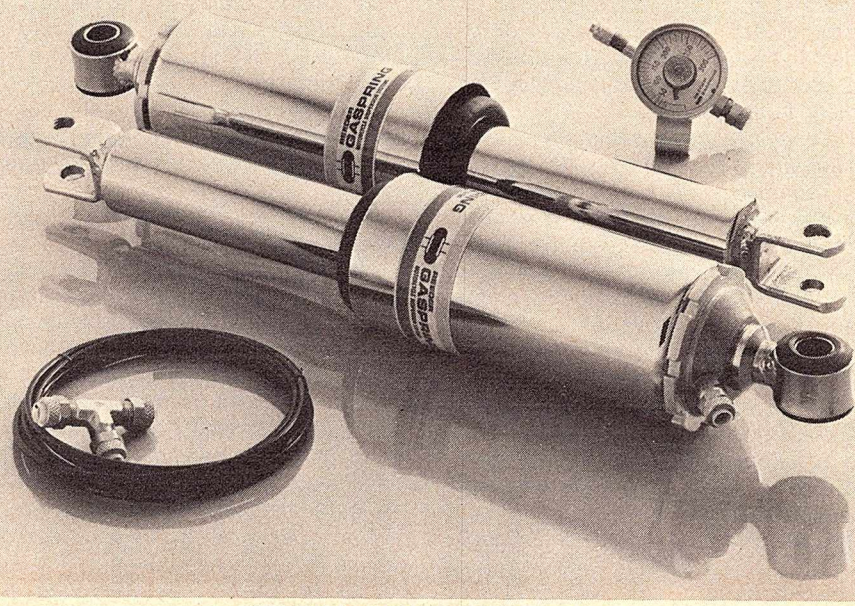



CIRCLE NO. 63 ON READER SERVICE PAGE.

# CONVERSATIONS WITH THE KING

● THIS INTERVIEW TOOK PLACE LATE IN FEBruary, less than a week before Daytona Speed Week began. The timing was interesting in that Kenny Roberts had the luxury of two perspectives: back across six complete seasons of Expert-level AMA competition during which he won 26 Nationals (second on the all-time list) and two National Championships; and forward to his involvement in the European road racing scene.

*Two things to be noted, on the record, straightaway: first, I am a Kenny Roberts fan. I admire him as a racer, I admire him as a man, and I have rooted for him since he was a Junior. Second, it must be remembered that although Roberts' road to super-stardom was just as rocky at the outset as anyone else's, he has had the benefit of first-rate sponsorship—Yamaha International—since his first Expert season. Some of his views must be interpreted with that fact clearly in view.*

*I have had many conversations with Roberts prior to this one, and have always been struck by his very mechanistic, very intellectual approach to the business of racing. After listening to him for two days and transcribing almost ten hours of tape, it is evident that the brainpower component is stronger and more efficient now than ever before. Roberts goes fast partly because he has good machinery, because he has developed an extraordinary sense of traction, and because all of his physical tools—sight, depth perception, hand-eye coordination, strength, endurance—are in exemplary working order. But how he* thinks *about racing—that is what makes him truly unique. He is terribly, terribly bright.*

*He goes to Europe with the best sponsorship and support imaginable: Yamaha US, Yamaha Ltd., Champion Spark Plug Co., Lectron and Goodyear. It is not a humble effort. But then it is not a humble project: the 250cc World Championship, the 500cc World Championship, and as many Formula 750 races as he can squeeze into his schedule. Almost every event will take place on a track unfamiliar to Roberts, a situation complicated in the 500 class by the newness of his bike and the experience of his two arch-competitors, Barry Sheene and Pat Hennen, both Suzuki-mounted.*

*Is it fair to expect miracles? Ordinarily, no. But there is nothing ordinary about Kenny Roberts.* —*Cook Neilson*

**Q:** Can you explain the relationship between Yamaha and racing, both here and in Europe?

**A:** First, as far as Yamaha is concerned, Europe *is* racing. Yamaha U.S. is just an outlet; Yamaha U.S. is *not* the Yamaha factory. The factory races for a couple of reasons: first to make the street bikes better, and second because they enjoy it. The factory is oriented towards Europe: they've been there; they've run *factory* racing teams in Europe. Europe is the only place there is a real Yamaha *factory* racing team. The factory builds the motorcycles, and takes care of them. The factory sends motorcycles to America, the importer buys them, and races them out of a set budget from sales.

But I'll be representing Yamaha U.S. in Europe. There'll be eleven 500-250 races, and eleven 750 races, on separate days. I'm not going to ride all of 'em, and actually, it's less of a schedule than I'm used to running. I've got three weeks off in June, and I may be able to come back to the States then.

**Q:** Just how is the team going to be structured?

**A:** Kel is running the thing; he'll pay my expenses, he looks after the books, he hired Nobby Clark and Trevor Tilbury as mechanics. All the money goes into one corporation, which is mine and Kel's. Instead of getting paid directly by Yamaha, I get paid from my own corporation.

**Q:** You're going to be out of California, out of the United States, for an extended period of time. Do you think living in Europe will be informative, or just a big pain in the ass?

**A:** I don't know yet. I've done it before—been over there a month—and I missed home. But I think taking a motor home over. . . .

**Q:** How are you going to get a motor home over to Europe?

**A:** We've already sent 'em. Kel and I bought a pair of Sport Coach motor homes in L.A. the other day, put 'em on a boat, and sent 'em over. And we have a new Mercedes transporter waiting for us when we get there for the bikes and the mechanics. Kel's wife is coming over for a month or so in the summer, and my wife and kids are coming over from the start.

A lot of times over there you just don't have anybody to talk to. My dad's coming with me to help around the pits, and with the kids. I've oriented myself around people who speak the same language, people who have something in common, so we won't all go nuts.

That's a big problem going to Europe: you have to adapt to it, and there are a lot of things you just can't get there that you're used to having here. If you don't adapt you hate it, and if you hate it you don't perform well. But I like Europe; I don't think it'll be that much of a problem. I'm not much for TV anyway.

**Q:** I don't understand the tactics of having you racing in Europe on factory equipment paid for by Yamaha U.S.

**A:** The money's coming from the U.S.—I don't know why. I imagine it's just a way to get racing done.

First off, I didn't really want to ride for the factory—Yamaha of Japan—unless Kel was going to work on my motorcycles. I told 'em that. It's taken me a lot of time to convince Kel that when I tell him something, it's true. Now when I tell him we're starting to lose our edge, that we're getting down on horsepower, he believes it. I used to tell him that and he *wouldn't* believe it. It's taken a long time to achieve the relationship that we have now.

It's not that hard to get on a tuner's motorcycle and ride it. But to make that motorcycle the best it can be, that takes a lot of work. What works on the dyno doesn't always work on the track. I had argument after argument with him, and finally we were able to communicate well enough to where we know what we're doing. I don't want to have to go through that again with some new guy.

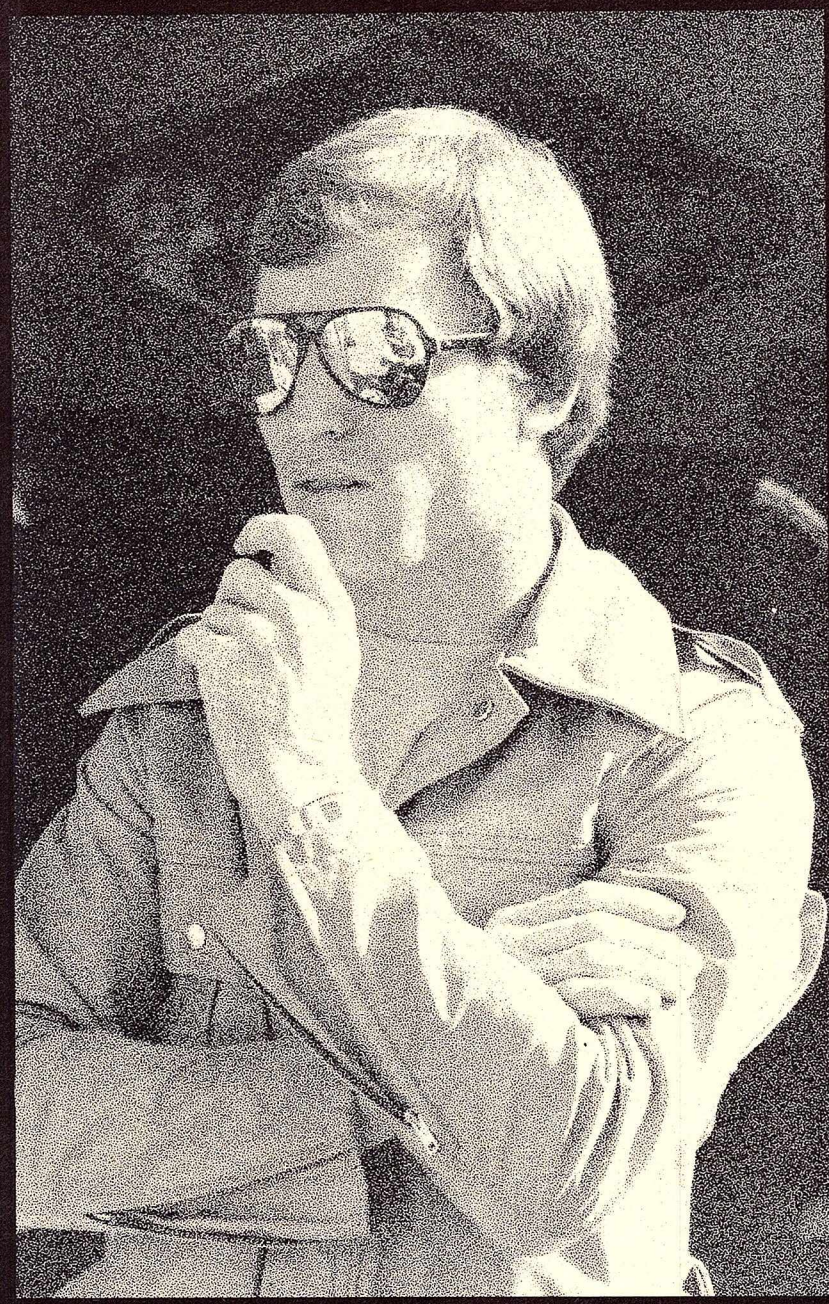
The Japanese are very smart at building the things. They build, in my estimation, the best racers. But to build a racer to suit everybody is next to impossible. Kel can take that motorcycle and make it perfect for *me*. That motorcycle may not be better for Agostini—but for me, it's better. Yamaha understands this—that's why they win so many races.

**Q:** You've been around Yamaha since you started in racing, and in direct contact with the Yamaha factory for the past four or five years. Have you noticed any change in their view of Americans, or their willingness to work with Americans?

**A:** Yeah—it's gotten better for us. They're now willing to look, listen, and even test Kel's stuff. I'm lucky to be hooked up with Yamaha, because they're not a company that feels everything they do is the *best*. If their spark plug hole is off a little, they'll



PHOTOGRAPHY: DAVE HAWKINS



# THE KING

"If the bike's working well, and it's just the way I want it, I get pumped. As the laps go by I go faster and faster. That's how I get my kicks."

change it. If their shock doesn't work, you can change it. Yamaha has done very well in racing because of it—they will bend.

**Q:** What's the relationship between you and Goodyear?

**A:** I have a contract with them. Of all the people I've met in racing, I've never met a nicer bunch than the people at Goodyear. It's a pleasure to work with such a responsible bunch of guys; they're dedicated, and they're loyal. Champion Spark Plug people are the same way.

One of my good friends with Goodyear is Bill Robinson. Bill is very smart about racing, and I listen to people who know what the hell they're talking about. He's always steered me in the right direction about where to go and who to talk to. He advised me, when I was going to talk to the Goodyear factory people, to go right to Leo Mehl, the Director of Racing. He said Leo was a fair and honest guy. I went to Leo; he was one of the nicest people I've ever worked with. I'm glad I was able to go to Goodyear, talk to them, and get a commitment. Lectron has also been fabulous; if I need something, they'll break their ass to get it done.

**Q:** You've been to Europe before. You rode your 250 at Assen in 1974. Why'd you go? What were you doing there?

**A:** To get some experience for GP racing. At that time, Yamaha didn't have anybody to race in Europe. I didn't really think about it then—it was just another place to race. But they were thinking about taking me to Europe to race; I don't know whether they wanted to see how well I could learn race tracks, or what. Assen was hard to learn. It was seven miles long, and flat; kind of a mixture between Ontario and Sears Point.

Kel briefed me—showed me where I'd be likely to run off the track: a series of fast sweepers. He was right. After about three or four laps, when I thought I knew where I was going, I ran off the track. It was fast, too—over 100 mph. Boy, that scared me. I was *white.* I pulled in and stopped. Kel asked what was wrong. I said, man, I just ran off the track. My hands were shaking. Kel said, so what? Get out there, you've got to learn the track. I didn't want to.

Anyway, they gave me 45 minutes in the morning and 45 minutes in the afternoon for practice. After the first day I could remember half the track; at the end of the second day I had fast time.

The race came up, and we had to push-start. Never done that before. We all lined up, and there was just dead silence. I sat there and thought, damn, this really is *weird.* Dead silence, just before a race. I didn't know much about road racing at the time—hadn't done much of it—and push starts struck me as really funny.

I got away with the first group of guys, was leading it, and then Villa passed me down the main straight. Couple of other guys passed me too. Then I passed everybody back and caught Villa. I followed him for a lap, right on his butt, then decided to show him that I was there, and wait for him to make mistakes. I'd heard that he did that: run off the road once in a while when he's being pressured.

At the end of the straight there was a hairpin. I whipped out of the draft, pulled up alongside, and out-braked him. But I didn't quite get it into first gear—you had to go from sixth to first for that corner—so I slipped the clutch coming out of the corner, and spun the bike out. Kel always told me, don't ever slip the clutch coming out of a low-gear corner.

Man, I was mad. Picked the bike up and the footpeg was bent, the screen was broken, the handlebar was bent, the clutch lever was broken. Before the crash I had had a 50-second lead on third place. He came by and I raced with him, and while I was doing that I reached down and fixed the footpeg, and tore the loose pieces off the fairing. While that was going on, I came up on the guy who was in second place, and figured I'd wait 'til the last lap, and get second. But they don't use a white flag over there, and one lap I was coming down the front straight and they hung out the checker. I was mad about that—losing second.

But it was good experience, even though the pay was lousy—I think I got $250 to show up, and $250 for third place.

**Q:** We talked after that race, and you said you were hesitant about making a full-time commitment to Europe because you didn't know enough to deal with all the variables—brick walls, trees, strange languages. But without having made a full-time commitment, you have accumulated a lot of European experience: Match Race business, Imola, Paul Ricard, etc. Do you now feel you can go to Europe and master the situation?

**A:** I'm probably as ready for Europe as I'll ever be. If I stayed in America, I'd have to wait until Skip [Aksland], [Steve] Eklund and [Dale] Singleton mastered the 750 before I'd have anybody to race with. I've learned a lot in Europe over the past three years, and I've drawn closer to the Europeans and to their life style. But mainly I feel I've mastered it here; that there's nothing for me to learn here. I'd have to sit around and wait until I got beat before I'd learn any more, and the only way you can learn by leaps and bounds is to get beat by somebody who's going better than you.

I'm comfortable enough now on the road racer, after riding in various countries, to learn the race tracks; two years ago I wasn't. One of the problems I used to have was rain. I'd never ridden in the rain. But for the past two years in England, I've ridden in the rain, so I've gotten used to that a little.

Learning the race tracks was another big problem. One thing about me, and I

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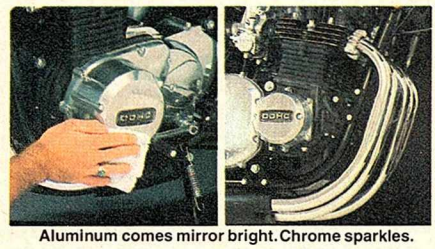

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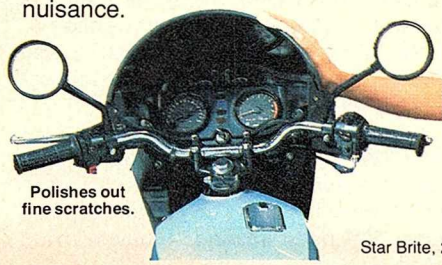

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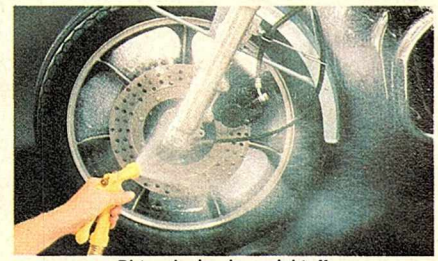

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CIRCLE NO. 24 ON READER SERVICE PAGE.

"I've never refused to tell people what they're doing wrong, if they ask me. A lot of them don't ask me, and a lot just think you're lyin' to 'em anyway."

# THE KING

know it better than anybody, is that I'm not going to ride around in second. If I didn't know the track, I would have tended to ride too far over my limit. If I don't know the track and I'm getting beat, I don't like it; I *will* tend to ride a little bit over my head to make up for it. In the dirt, there's no problem. You miss a groove, or miss a corner, why, you just lay it over farther or gas it a little harder. Road racing's really not that way, which is why there are no young kids blitzing everybody.

I wanted to be ready when I went over there to the extent that I would be calm enough to recognize the problems. I don't like to get beat, and I'll run extra hard not to. If the bike is obviously working badly, then I'll settle for whatever I can get. But if it's right, I'll push it to 110%.

So I had to make sure that I'd be comfortable, and be able to learn the tracks, and be confident that I could win.

**Q:** Do you expect to have a *chance* of winning, or do you fully *intend* to win?

**A:** Winning is just a lot of work. It's hard for me to estimate who's going to be the toughest competition for me in the 500 class, because I haven't really run the 500. As far as the 250 is concerned, I'm not worried about anything. I can ride it as well as anybody. I can ride a 250 'til the wheels fall off. The 500 is a bit more complicated, but I can do anything I want with my 250. The ultimate for me would be to have my 500 work as well as my 250 does. Hopefully, we'll get it to that level.

Stevie [Baker] will run with me in the 750 class. But what I really care about is the 500 class, and Barry Sheene is my main competition there. The Suzukis, the way I see it, are almost like the Harleys, in that they dominate the class. Stevie said that the 500 Yamaha just doesn't work as well. I got a lot of variations on why, but Stevie had a lot of problems with the 500 Yamaha. It's a lot lighter [than the 750], it's skitterish, and you just don't make snap decisions on the 500. It's about 80 pounds lighter than the 750, and has roughly the same top-end speed—within two miles per hour.

But it's going to have less traction. If you set the tire compound to achieve the same traction as the 750, then you're going to spit off the tire because of the horsepower. It's going to be an interesting situation. The Suzuki's heavier than the Yamaha, and might get better traction.

**Q:** We talked recently to Pat Hennen, and he said the square four Suzukis are essentially all-new for this year.

**A:** I hope they screwed 'em up, because what they had was really good. I hope they have some initial development problems; I know I'm going to. I've already had some. It's been raining, I haven't had much testing time, and now it's time to ship the bike to Venezuela. I'm a little worried about that. But the 250 is ready. It's a good bike, I'm used to it, it always runs, it handles well, and I can learn the race track on it.

**Q:** A few years ago you told us that, although you were intellectually aware of the dangers of the typical European race track, those dangers didn't cause you to go any slower. You said that you were programmed to go as fast as the track would permit, without regard for the brick walls and the houses. You said then that this worried you. Does it still?

**A:** I still ride the race track itself; whether a corner has a steel guard rail around it or hay bales is irrelevant to me. I'm not generally riding over my head to begin with, and I have plenty of room if anything happens. You concentrate on going the right speed on the right corner for the right part of the race track.

**Q:** What do you anticipate being your biggest problem racing in Europe this coming season?

**A:** Racing in the rain, or learning a track under one set of conditions and racing under a different set. Suppose you show up Thursday for practice. It's raining, and it's raining Friday. Then when race day comes it's clear, and everybody's putting on slicks. Right off the bat you've got to go fast—the other guys know all about the track when it's dry, because they've raced there before. So I'll have to go out in the dry, learn the track during the race, and keep up with Sheene all at the same time. The weather changes in Europe are going to be difficult for me to adapt to. Tire selection is going to be tough too.

**Q:** Do you find that there's a significant difference in race philosophy between American riders and European riders?

**A:** I think that the Europeans on the whole are a little more professional. They're much older, of course, and they do it as a business. Here it's more of a sport; there are only a few making a living at it. Over there the riders have to deal with promoters and argue start money; if you have to argue about money, that makes you grow up quick. On the race track, it shows: if they can win they try to win, and if they don't, they just try to do as well as they can. Here, a lot of people say they're going to win or crash.

**Q:** Do the Europeans ride pretty clean?

**A:** I don't know, because I haven't gotten to ride with very many of 'em. Barry Sheene is a really clean rider, but I don't think they're apt to be as clean as they are in America. Here, everybody's buddy-buddy; there, a lot of 'em can't understand each other. But I couldn't honestly say.

**Q:** You started off racing motorcycles for fun, essentially. Now you're racing for what is estimated to be a large amount of money. Obviously the relationship between you and racing is changing: you make a lot of money at it.

**A:** Over the years I've gotten to be a high-

paid rider. I started with Yamaha in 1971, and I've never had a salary cut, and now it's up there quite a ways. I don't go in and *demand* a lot of money; Yamaha has always been very good with me, and we've always been able to work out our money problems.

And I don't have any money problems with anybody else, either: either they pay me, or they don't. It's gotten to a point with me where a patch on my leathers is worth X-amount; I can't carry a patch that someone paid five bucks for and another one that cost someone else $20,000. So I guess it's gotten to the point where I just can't help the smaller people. Not that I don't want to—there's a lot of people that I'd help for nothing. Like Ken Maely; I'd put his sticker on for nothing, because he's really gone out of his way and busted his ass for nothing. But generally, to be fair, I have to say to someone, if you can't come up to such-and-such a figure, I'm sorry, but I can't do it for you. Besides, I've always maintained since I started that too many sponsors are no good. I've been in quarrels, money fights, with a lot of people. In 1972, Castrol Oil was going to pay everybody on the Yamaha team $100, and give 'em free oil. I told 'em that there was no way I was signing anything for $100 and free oil. They said, well, OK, maybe for you we can work out something different.

After about three months we agreed on $100 a race and $2000 if I won the Championship. Finally they got a contract to [then-Team Manager] Pete Schick, but it had Yvon DuHamel's name on it. By the time they had hand-carried a contract to me, the Championship was in the bag.

But they'd fooled around so long that I wouldn't sign it. We got into a big thing back at Pocono, I think it was, me and this dodo-bird from Castrol. He said he had my contract, right there in his pocket. I told him I wasn't signing it. He said, hey, that's $4500. I told him I hadn't been running his stickers all year; he said he knew that. He said they'd paid me contingency anyway, and I said I know that, but I hadn't been cashing the checks.

I feel that I always give the sponsor X-amount of publicity for X-amount of money. My sponsors have always been happy. I've seen guys put a sticker on that'd be worth a hundred bucks, right next to their major sponsor's sticker. The major sponsor might be in for five grand, and there's a hundred-dollar sticker, right next to his. It's got to hurt.

**Q:** What's the most fun you've ever had racing?
**A:** Racing offers a different kind of fun; tennis is fun, golf is fun. But racing is, well, different. It's what I do for a living, and it's not in the same category as "fun." It's fun to make a corner absolutely perfectly, and the sensation of speed is fun. But it's a type of fun that pumps you up; it's not laughing, giggling "fun."

The *funniest* thing that ever happened occurred with Mert Lawwill when we were in a heat race at Terre Haute. I had been racing with Gary Scott. I was showing him that I could pass him on the inside coming out of the last corner. On the last lap I passed him on the outside; Scott held it in too far. Then Mert got under Scott, and me and Mert were side by side, going for the checker. I reached over and grabbed his knee, and pulled myself by him. He was tucked in, and he couldn't believe what was happening. Just before the start-finish line I let him go by again, and he won by probably six inches. He was laughing so hard that I thought he was going to fall off the motorcycle.
**Q:** You're leaving behind a kind of racing you grew up with. How old were you when you started?
**A:** Fourteen. It seems odd that I'm leaving dirt racing, because I'm so familiar with it, and because I've worked my tail-end off at it. But the last two years just burned me out. The only way I can go dirt racing now is to buy a Harley, or run a private Yamaha. It finally occurred to me that I was beating my head against the wall trying to win against Harley, and really not getting that much factory cooperation.

We never got any real factory racing parts [for the 750 twin]. We built our own. They didn't want to spend a whole bunch of money, hire five mechanics and do it right. So it was useless to go dirt racing.

I could have gotten on a road racer, rode five times, and made more money than I could have made racing in the dirt all year. It was a losing proposition.
**Q:** If it's possible to isolate the exact problem that exists racing Yamahas against Harleys, what would it be? Was it something as simple as racing a vertical twin against a V-twin, or was the Yamaha holding its own while the Harleys made progress? You used to be able to run with those guys.
**A:** In 1973, when Harley first developed those bikes, they only had one consistent rider—Gary Scott. The bike's powerband was way off, the frame was a little off, stuff like that. The bike wouldn't hook up. The Yamaha had more traction at that time than the Harley-Davidson did. I had, at that time, maybe 60 horsepower. The Harley had something like 73. But it was top-end horsepower, and it wasn't really adjustable.

Mert Lawwill was the first one who brought it together. He showed up at San Jose in 1973 with that fire-breather of his—75, 78 horsepower, something like that—and it woke Harley up. Then the factory guys went back and fixed theirs, and they all ended up with roughly the same combination.

In '75 they came to the Indy Mile and got the first four places; I got fifth. I had 70 hp. at that time; they had 80. The next year Kel did the dirt bikes, and we got the OW stuff. We had 79 horsepower, and Harley had

*(Continued on page 122)*

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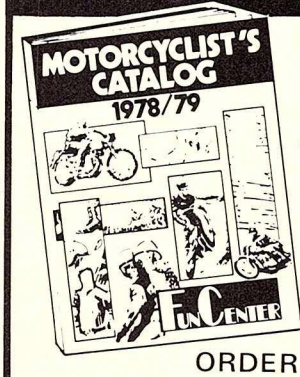


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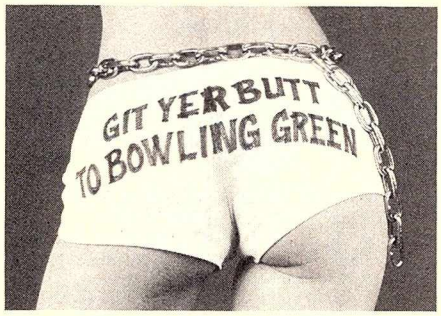


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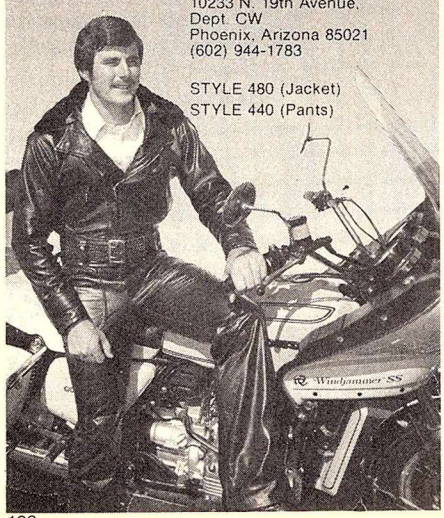


**THE KING** .....*Continued from page 121*

83, 84, and *they* had the traction. We were going through the same thing Harley did when the XRs were new: the bike wouldn't hook up. I rode some things that had tremendous horsepower on the dyno that wouldn't even run on the race track. So we had Harley's problem, but we didn't have Harley's facilities. When we quit racing last year Nick Deligianis had the thing up to 85 horsepower. That was the best we ever had—and the Harleys had 88 or 90, with more traction than they could use. It takes time and money to do development work, and Yamaha didn't want to do it again.

Q: It strikes me that with you away from the American dirt-track scene, Harley-Davidson no longer has any highly-visible competition. When you had competitive bikes for the dirt, it was you against the Harley guys.

A: Yeah. Everybody went to a dirt-track race hoping that I got my act together well enough to run with them. And it happened every so often on the Mile, where I could draft 'em. Now? I don't know. Obviously Harley wants to remain the Champion. But eventually, the guys who are running Harleys as privateers are going to take over; specifically Skip [Aksland] and Steve Eklund. If they get their dirttrackers running well—and it doesn't take the factory to have a good-running Harley—I don't see how Springer has a chance, because Skip and Steve both have good Yamaha road racers. If Steve can keep his road racer going, and if Skip can get more aggressive on the tight dirt stuff, they're both going to be in there for Number One. Harley has to either try to separate the dirt-track Championship from the road race Championship, or build a road racer: one or the other. Their bike—the XR750—will still be part of a Championship, but the factory riders won't, because they don't ride TZ750 Yamaha road racers.

Q: Tell me about the TZ750 Miler.

A: It was a good bike, and could have been absolutely the best bike on the Mile. The problem with it was, I was going 30 mph faster down the straightaway. To get it stopped, well, you just couldn't do it. I was afraid that if you put somebody else on that bike who really didn't have any sense, you were going to wipe out a whole bunch of people.

It wasn't actually us who decided to build it. Doug Schwerma wanted to build one, and I said, man, that thing'd be a bullet, but I don't how it'd ever get enough traction, even though the thing's got a good powerband.

Anyway, Doug started out to build one, and Yamaha wouldn't help him—they said we didn't need it then.

But as time went by the Harley domination kept growing and growing, so finally I said that if Kel built one, I'd ride it. At that time Tim Witham was building our engines and none of us had the time to build up a TZ Miler. But we were really having problems winning races. Before Indy we had a two-week break, and Bud [Askland] was going to go back to Los Angeles to work on our four-stroke dirt-track engines. I told him not to bother—I'd ride the four-cylinder at Indy.

I never even saw it until it showed up at the race track. There were four of them there—Skip Aksland had one, I had one, Steve Baker had one and Rick Hocking had one. Four of 'em. I thought it'd be really funny if all four of us fired 'em up, went into the first corner, found out at the same time that we couldn't turn 'em, and all four of us smacked into the wall.

I was the first one on the track with one, and planned to take it easy, since it was a brand new bike. Didn't take it easy too long. It was geared for 145 mph at 10,500 rpm in sixth gear. In the third turn I really gassed it, and the thing jumped up on the back wheel. Almost freaked everybody out. It was *fast*—but it wobbled all the way down the straight, because it was lifting the front wheel all the way down the straight. Anyway, at the end of the straight it was pulling 10,500 rpm—145 mph. But I couldn't ride it in one gear. It had a good powerband, but it spun the tire *bad.*

In the heat race I got something like fourth. That was when I decided to shift it. I took two teeth off the back sprocket, which would have been 150 mph in top gear, and it was pulling between 10,500 and 11,000 in the Main—it was going 150 mph at the end of the straight!

To get it stopped I had to throw it down on its side with the brake on, and bounce it off the cushion. There was a berm in turns Three and Four, and I could go through there faster than the Harleys could. But in One and Two, there wasn't such a big berm, and I had to run out against the fence, in the muck. I would lose as much as a half a second a lap, depending on the drive, in One and Two.

Towards the end of the race I was in third, and I didn't know how I was going to get a drive strong enough to win. I was thirty yards behind the leaders—Corky Keener and Jay Springsteen. They were swapping the lead, each wanting to be second coming out of the last corner. Corky had no idea I was behind 'em, but Springer did. About five laps from the end of the race he looked back and saw me. I thought, shoot, he *saw* me. And I didn't want 'em to see me—I was hiding out back there, planning to do a last-lap number on 'em. When Springer passed Corky, he signalled that Number One—me—was right behind. But Corky didn't understand. On the last lap, they were still playin' around. Corky wanted to be second. Coming out the last corner Springer was in front, and Corky used the draft to pull up alongside. So I had a two-bike draft. I held the throttle really steady, got a good drive, and when I pulled the clutch in to catch the next gear the tire stopped spin-

*(Continued on page 124)*

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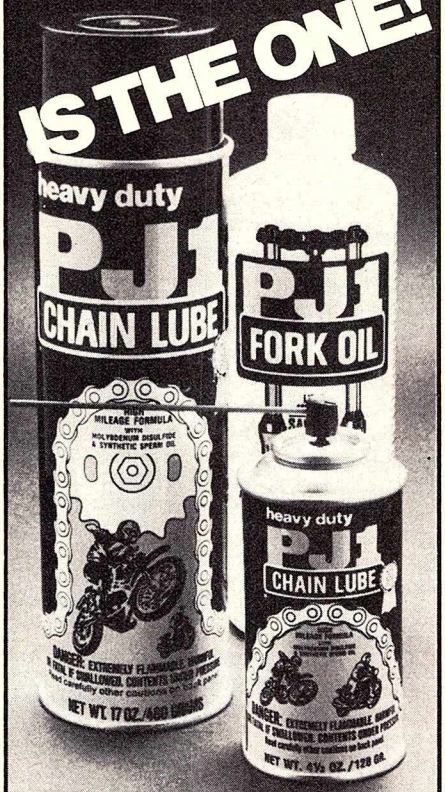


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**THE KING** .....*Continued from page 122*

ning, got a really good hold, and just went right by 'em.

Q: How much did you win by?

A: About a foot. That was the only time in America that I've seen a crowd go nuts.

Q: After that your position became pretty well-known—that if the bike were raced at competitive speed it was practically unrideable. But you ran it one more time.

A: At San Jose. In the Mile. With a slick on the back. Won the heat race.

Q: What was it like at San Jose compared to Indy?

A: The biggest problem at San Jose was the tire. I could have won San Jose on that bike, if we had had enough time. But the only tires we had then were 18-inch. I had no steering damper on it, for the simple reason that I never ran steering dampers on dirt-track bikes. The thing really did wobble, and with the slick tire on it it wobbled so bad that I just couldn't ride it. In the heat race, when the track was damp, it worked plenty good. But when the track got dry it just didn't work at all.

Q: There's little doubt that you've given the sport a tremendous amount—not the least of which is what you've taught Skip Aksland. How did you become involved with him?

A: I started riding for Bud Aksland. Skip's dad owned a motorcycle shop in Manteca, and Bud ran it. I had had junk equipment that my Dad and I had prepared. I was happy with it, won some races, but it was really junk compared to what a shop could put out. Then I started riding for Bud, and I guess I won just about every stupid 100cc race I entered. Then I went on to 250 racing with Bud; Skip was maybe 12 years old. After work at the shop me and Skip'd jump on our bikes and go riding. I had a 50cc Suzuki, and Skip had an old Hodaka 90. We'd race, constantly. Around the house, around the barn. We grew up together.

When I was a Junior I hired Bud to work on my dirt bikes and my road racer. Meanwhile, Skip had started in Sportsman stuff. Pretty soon Skip was an Expert Sportsman, and I offered to build him a half-miler out of a 250 twin that wasn't doing anything. I built it in three days, and he went down to Ascot and won the Novice race. Then I built him a Junior bike, and since then it's been sort of a Big Brother thing. I've helped him learn how to road race—but you can only show a guy so much. He's got to have the natural ability.

Q: If you went to a track like Riverside—a track you'd be able to figure out pretty fast if you didn't already know it—what would you tell Skipper? What kind of general advice would you give him?

A: I'd show him where he might have to go slower here in order to go faster there. If he was going too fast in, say, Turn 7, and not fast enough in Turn 7A, and 7A was more important since it led out onto a

*(Continued on page 126)*


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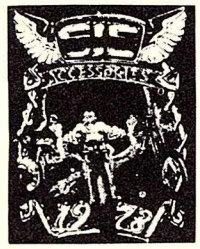


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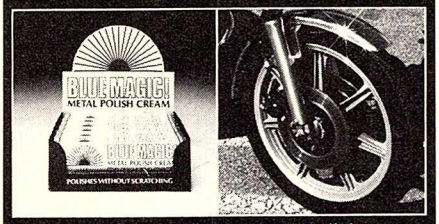


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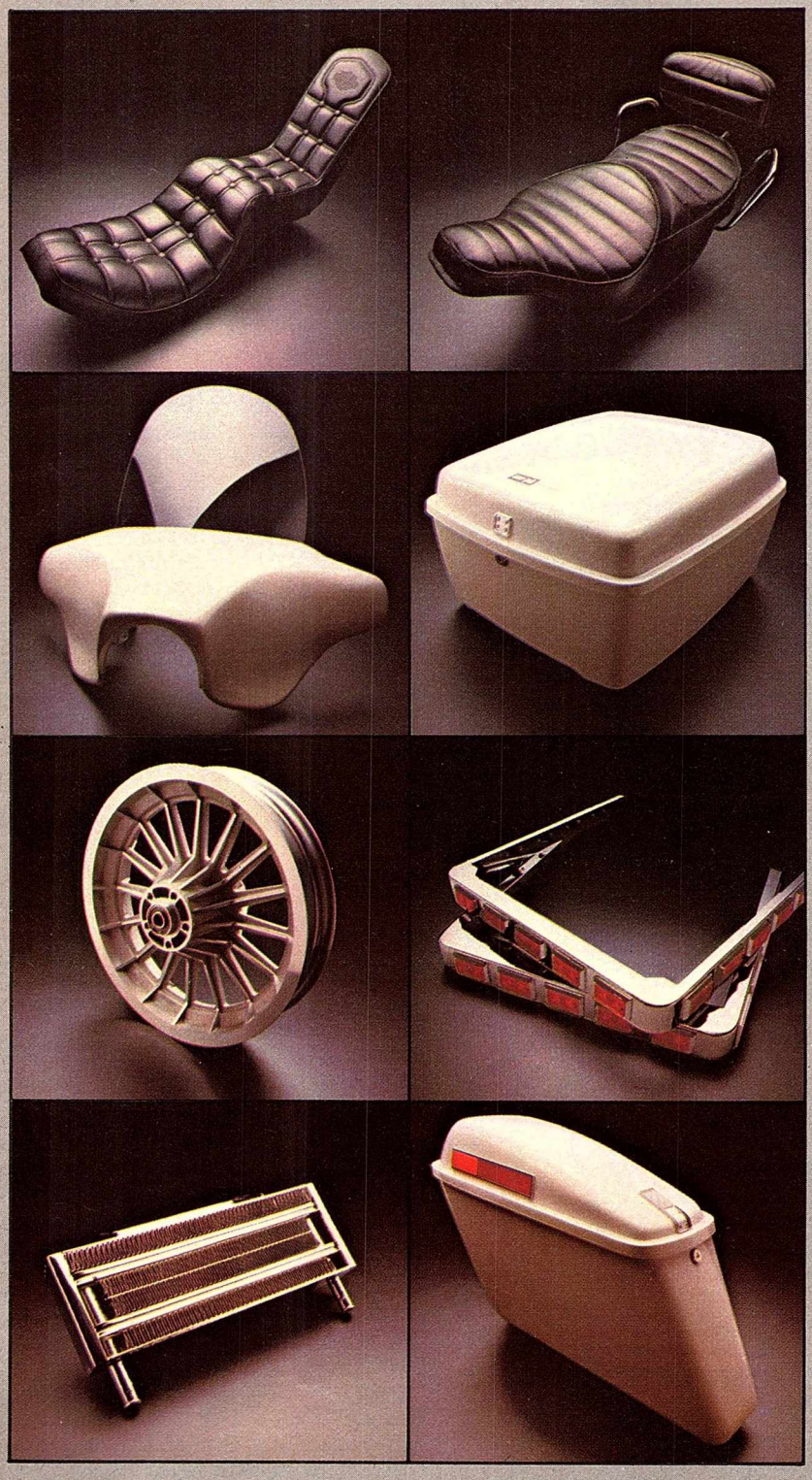

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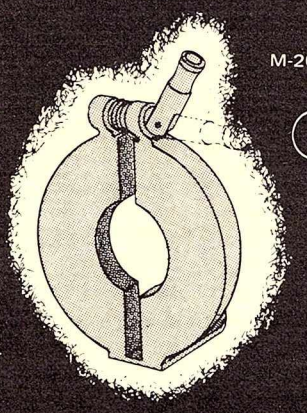

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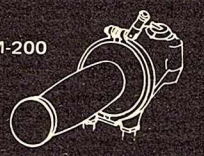

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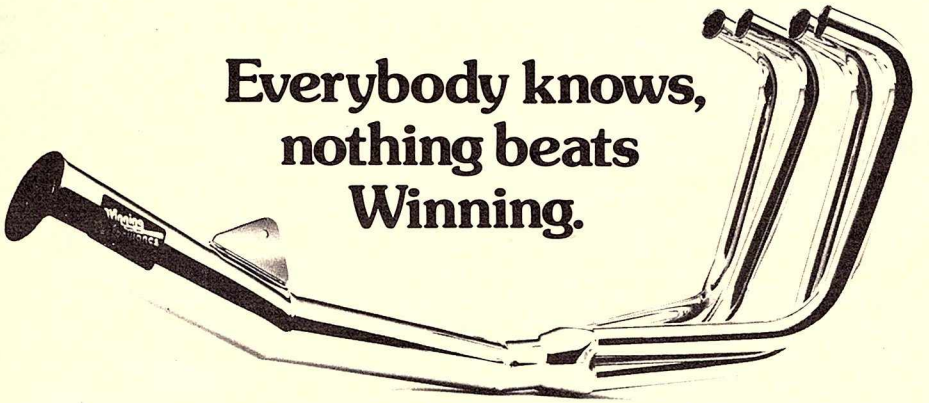

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straightaway, then I'd tell him that. That can really help a guy; otherwise he's not going to learn it as fast as he needs to. I'd show him certain lines, let him follow me around. When he was a first-year Expert, I let him follow me around in every 250 practice. I let him follow me around on the big bikes too, but he didn't progress as fast with that as he did on the 250. But then at Daytona last year his 750 suited him better, and last year, why, he got a lot of seconds. He's really coming along. This year he may even win one—he may win 'em all.

**Q:** Is he pretty much on his own now?

**A:** Yeah, unless he's got a problem. I've never refused to tell people what they're doing wrong, if they ask me. A lot of them don't ask me, and a lot think you're just lyin' to 'em anyway. Everybody's got to learn on their own, of course, but if they come to you with a specific problem and you can sort it out for them, that's a big plus. Kel saved me a lot of problems and trouble, because I could follow him around when I was a first-year Expert. Couldn't beat him, but I could follow him. That's going to help anybody.

**Q:** What did Kel teach you?

**A:** Predominantly, how to think. I think I use a little more force than Kel did. But with the 750, you have to. It's not all technique on them things: you've got to hold 'em from wobbling, and sliding around.

Kel taught me how to go around fast corners; this is where I have it over a lot of the guys. That's what counts: going around the fast corners fast. You can make up a lot more time in fast corners than you can in slow corners.

It's a unique feeling—a kind of a high for me to go around a fast corner. I ride a hundred per cent. But if the bike's working well, and it's just the way I want it, I get pumped. As the laps go by, I go faster and faster and faster. That's how I get my kicks: I ride that 250 'til it's just sliding all over the place. At Imola, and in France, I rode around with the guys for a while, then I just took off. I like to ride it as hard as I can, go around the corners as *fast* as I can; if you don't, then it's not new to you. It's not new to me. I just keep splitting little hairs off. On a track I don't like, like Pocono, I have to force myself to go as fast as I have to to win the race. But a track I like—I like Riverside, because of the sweepers—I'll go out, warm up the tires, and then cut off a few good ones right away. But at Pocono I never did go fast until the race, because I didn't really like it.

**Q:** We noticed that you were dogging it in the heat race there.

**A:** I didn't like it. There aren't any fast corners, everybody's slamming on the brakes and skidding around. Just didn't like it. I had to win it—I had to win all the

*(Continued on page 128)*

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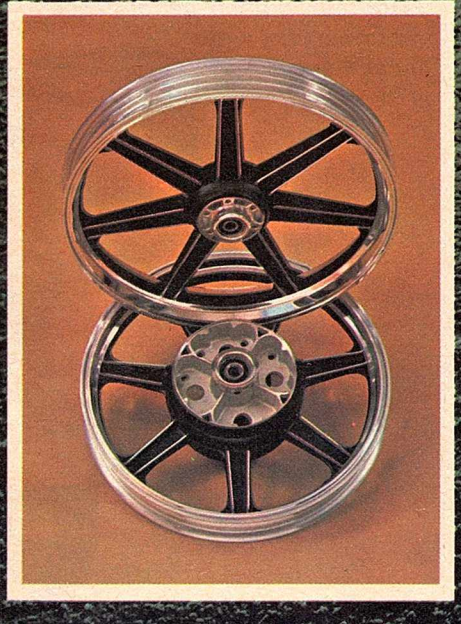

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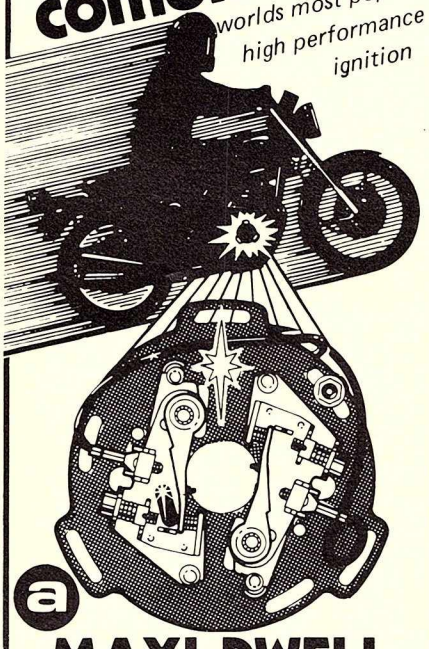

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**THE KING** .....*Continued from page 126*

road races to stay up in the Championship hunt—but I didn't like it. It wasn't like Riverside, where I just plain like to ride.

Q: Which tracks *do* you like, besides Riverside?

A: Imola, Road Atlanta; Paul Ricard isn't too bad.

Q: What is your specific advantage in high-speed corners beyond your willingness to simply go through them faster than anybody else?

A: I just seem to thrive on fast corners. Something I learned a long time ago listening to Bill Robinson, a friend of mine from Goodyear, was that Cal Rayborn always set his bike up to push the front end on low-speed corners and skid the back wheel on high-speed corners. That's basically what I do. I don't mind the front end pushing in the slow stuff, and I skid the rear wheel in the fast corners. Once I get the back wheel broke loose, I know just how far to drift it. That's why I get along really well with the Goodyears: they're consistent, and I can break the rear tire loose and feel comfortable with it. On a fast corner you're not usually going to ground out. You're going to lose either your front end or your back end. If you're going through a fast corner, you've usually got the gas on. I will shut off earlier, but I turn the gas on earlier than most people. With the power on, there's only one thing that's going to happen in a high-speed corner: your back-end's going to let go. My back-end's already hung out a little bit; for me, it's adjustable. I shouldn't be saying this, because everybody'll pick up on it. It's just a matter of getting a feeling of how far that thing's broke loose, and keeping it there. It's a fine edge: keeping the back end broke loose three or four inches. Any more power, and it's going to get me on my ass; any less and it's going to straighten out, and you're going to go slower.

A lot depends on how the bike's set up: whether it breaks loose consistently, or it breaks loose all at once. I set my bikes up to break loose—*not* to get maximum traction. I run a short wheelbase. Say you have a longer-wheelbase motorcycle; it breaks loose around a long, high-speed corner at 90 mph. Shorten the wheelbase and it'll break loose at maybe 92 mph. If you shorten it too much it won't break loose at all; I'm not comfortable unless it's skiddin' at least a little. You have to get the bike where you like it, and keep it there.

Skip's picked up on it; he can slide 'em through the corners. I don't particularly like sliding it coming *out* of the low-speed corners. Stevie does that often. It makes for a jerky ride, plus it's hard on tires.

Q: Up until this past year you had tire problems that were almost yours uniquely. What changed: your riding style, or the tires?

A: The tires got better. Goodyear made

*(Continued on page 130)*

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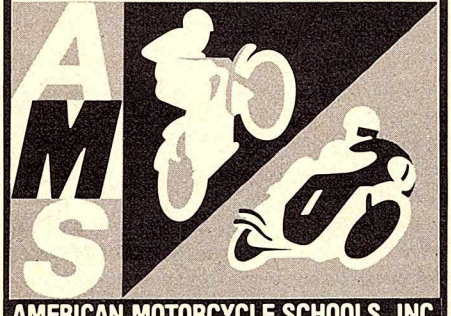


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the tires better for me, which made 'em better for everybody. The profile was a little off on the old tire; most of the heat would be concentrated on the edge. It was basically a flat tire—the 1381. Then last year they made the tire more triangular in shape—the 1734—and there was more rubber on the edge, where you use the tire the hardest. More rubber, less heat: that cured the tire problem. We have had tire problems since, but nothing like the problems we had two years ago. Tire technology has come a long way in the past two years.

**Q:** How much of that advancement do we owe to you?

**A:** Well, I've tested a lot of 'em, but they would have progressed anyway—there's been X-amount of dollars invested in 'em. I don't like testing tires at all. I have to do full-on 100% runs. Two years ago I spent three days at Daytona testing 48 tires, and I had to run 2:05-second laps (the record is currently in the 2:04s). Consistently. I was running 2:08s just breaking in the tires! But it's no fun. I'll tell you what, at the end of a tire test you are just fagged out from giving it 100% for three days. Fortunately, with Goodyear I've never chunked or blown a tire during testing.

**Q:** Do you think there's any connection between your superior talent on the TZ750 and the amount of tire testing you've done? You've probably got more TZ750 miles than any man in the world.

**A:** I would have to say that that would be an advantage. Not that I'm sharpening my skills, but that I'm gaining familiarity with the 750. Generally I go down to Daytona in January, then I'm off until March. When I go back I know what it takes to cut a 2:05; everybody's rushing around in the 2:10s, and I'm not really worried, because I know what it'll take to cut a 2:05, and I know I'll do it.

**Q:** What's the fastest lap you ever turned at Daytona?

**A:** I'm not really sure—a 2:03, or a 2:02 when I was pulling away from Cecotto in 1976. Last year was the worst year I had. We had messed with the chassis, and we went too far. The best I could do with it, comfortably, were 2:06s. Then we hurt the motor the morning before the race, and put in the spare motor. I could have run with Baker even with the back-up engine if the chassis had been right. You know, I've never been able to improve the stock TZ750 chassis.

**Q:** Do you like the TZ750?

**A:** Not really. Oh, I like it, but I don't like it as much as the 250.

**Q:** Do you think you're going to like the 500?

**A:** I think so. I hope so. It doesn't have the strong acceleration that the 750 has. The 750's all right, but there's a lot of guys on 'em that get really squirrelly. The first thing that happens to them is, in a long race, they lose their concentration. They brake too early for a corner, and about half-way around they decide they're going too slow so they wick the power up a little and the thing spits 'em off. You've got to keep your concentration 100%.

**Q:** How many guys in the United States ride them properly?

**A:** Just a few: Singleton and Skip ride them good, Nixon's not as smooth as Singleton or Skip but he runs one well, and of course Baker runs one strong. He's above the rest in that he can gas it—he's not afraid of the thing.

Towards the end of the year Mike Baldwin seemed to smooth out and ride it around, Jim Allen was goin' good in one of the races, Aldana rides it fairly well off and on, and Gene Romero can hustle one around. There's a lot of guys in that category—guys who, on a given day or on a given track, can go. Consistently, I would say that Nixon, Skip, Singleton and Baker can ride a 750 to its capabilities. It's hard to say what those capabilities are, but they'll ride it 'til its skatin' around.

**Q:** You went through a period, two years ago, when you crashed—a lot. Twice in England, once at Loudon.

**A:** I ran over a guy in Loudon. But yeah, I crashed twice in England. The maintenance wasn't there—there just weren't enough cubic hours, and that has a big psychological effect on me. I like to know that everything's done, done right, and that there's enough time to have a Coke. I don't like the last-minute stuff. I like to keep a high morale going in the pit area. If the guys work all week to get to a race and then the bike breaks, then the whole bottom falls out. Kel was just spread out too thin, and the result was that we were just not performing well. Unless the bike's working really well, I'm not able to ride it 120%. The dirt bikes were getting all the attention, and the 750 and 250 got neglected. Then the road racers became weak points. Stevie sat in Canada and Washington and rode around there, and he was strong. He was ready, and I was tired at Laguna Seca that year. I was dead tired. All I knew was that if I threw that thing away chasing him around and through traffic, there went the National Championship.

**Q:** How is your approach to the TZ750 different from Baker's?

**A:** He goes in fast and comes out slower, I go in slow and come out faster. That's where we're different. His system seems to work OK on the 750, but it doesn't work as well on littler bikes.

**Q:** Have you seen much progress in the development of American riders over the past five years?

**A:** I hadn't, until Skip and Singleton came up. It was kind of at a stand-still. When I was coming up, guys had to road race just to get points. Now there are guys who *just* road race. I think the team we've got going to England for the Match Races is the best one we've ever had: Skip, Sin-

*(Continued on page 132)*

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THE KING .....Continued from page 130

gleton, Baldwin, Romero, Aldana, Hennen, Emde and myself.

Q: Who's the best rider you ever rode against?

A: Well, there are different categories.

Q: OK, fill 'em in.

A: Kel was probably the smartest, but he was not the most aggressive. Cal Rayborn was probably the most aggressive rider I've ridden with; I'd say that if Calvin were still alive, there'd have been some real battles between him and me. He was the type of guy who didn't give an inch; I don't give an inch either, if that's what it takes to win a race. I never got to ride with Saarinen, but I know he was good. Sheene is good; he impresses me.

Q: How about in the dirt?

A: There's a lot of good dirt riders. Jay (Springsteen) is hard to beat in the dirt; Eklund is hard to beat. But I'd have to say that Springsteen is the best dirt rider to come along in a long time.

Q: Do you socialize much within the motorcycle racing community?

A: Not really. There are a lot of different little groups in racing; I've never been in any particular group. I like everybody. As far as going out and getting sideways after a race, it's something that I generally just don't do. Where I live, there's not a whole bunch of racers anyway; just Skip, and we've run around together for years.

Q: Did you ever think about riding a Harley?

A: Many times. Every year at Louisville I think about it.

Q: I wonder if they ever thought about hiring you.

A: When I was a first-year Expert, I was going to go with Harley-Davidson. At that time they had Mark Brelsford and Calvin, and they needed to hire another all-around rider. Yamaha had really dropped the ball. They didn't give me a lot of help, so I went in and told 'em I was quittin', that I just wasn't going to go through another year blowin' up. Pete Schick said, what'll it take to get you to ride the dirt bikes? I said X-amount, and he said all right, you've got a deal. I couldn't really say anything else. I got No. One that year, and after that I went on a three-year contract, and here I am.

Q: What kind of influence on you was Calvin Rayborn?

A: It hit me pretty hard when Calvin got killed. I really looked up to him. I had three heroes at that time: Dick Mann, Mert Lawwill, and Calvin. I was looking for Calvin to have a good year with Suzuki here in the States. I really liked racing with Calvin.

Q: Did he have much influence on your road racing style?

A: Not much, really. Saarinen was more of an influence. At that time—1973—it was the right time for me to change my style, and when Saarinen came to Ontario that year, I was really curious about him.

(Continued on page 136)

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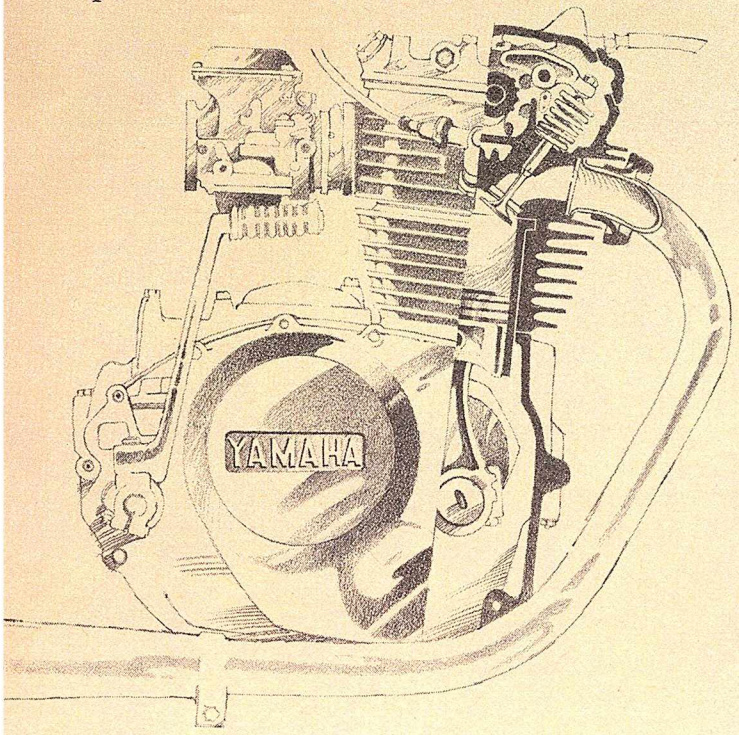


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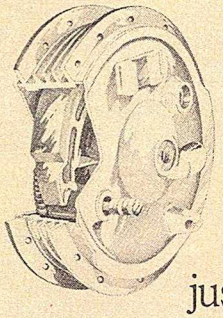

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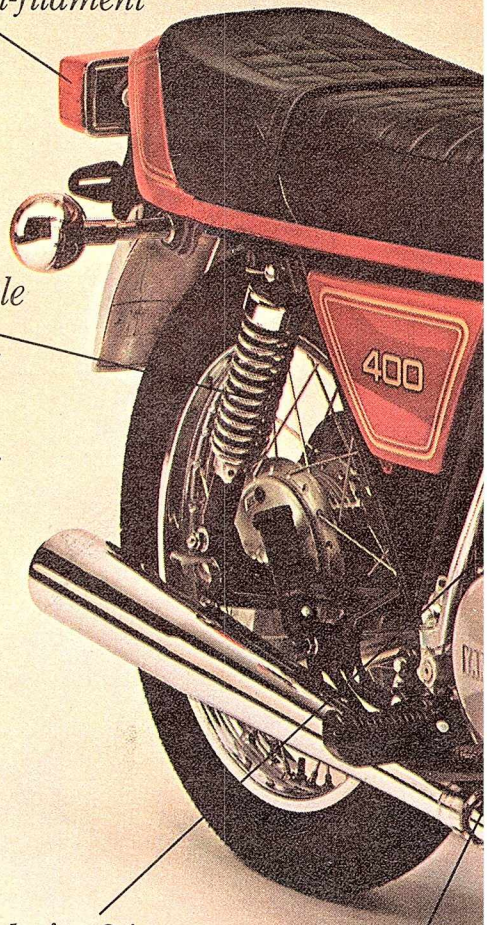


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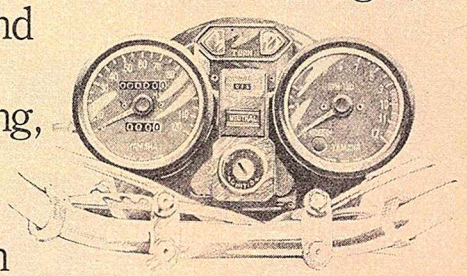

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NO. SP2


**THE KING** ..... *Continued from page 132*

Q: How about Paul Smart?
A: His style was completely different. He hung completely off the bike, and rode high. Saarinen stayed with the bike, kind of leaned off to one side, and stayed tucked in. When I couldn't get around Turn Ten at Ontario with Paul, I started hanging off to the side. It got to where hanging off felt more comfortable to me, and then I discovered that I could get around that turn faster hanging off than I could just sitting in the middle; I could stay in the apex longer. I thought about it during half-time, and when I went back out I started doing it in other corners.

I was hurt for the next year's Daytona, but when I got to the race after that—Dallas—I discovered that I couldn't ride sitting up.

Q: Do you think there's any reason why it seems to work, beyond just making you feel better?
A: Sure. You don't have to lean the bike over as far to achieve the same cornering speed. But mainly it makes me feel more comfortable. On a given corner Gary Nixon, who sits straight up on the bike, can go around a corner as fast. But I don't think it's as controlled.

Q: A lot of guys had trouble adapting to the TZ700 when it first came out. We always figured that it'd be easier to go fast on than the 350, but it gave trouble to a lot of riders.
A: It *was* easier to a certain point, but the thing wobbled a lot. It just scared a lot of people. It wasn't going to do anything to you, but it did wobble.
Q: How much longer do you think Yamaha will continue to build the TZ750?
A: Depends on what happens to the rules. It's kind of a dead class now—nobody in it except for Yamaha, and it makes for bad racing. I think that Suzuki eventually will get into the 750 class, but right now they're concentrating on their 500s and making an all-out attempt to keep the 500 cc World Championship with Barry Sheene. Honda has announced that they're coming back into 500cc formula racing, and that got 'em all going. That'll shelve the 750s, the way I look at it—if Honda gets into it with the 500s, there's no reason why we have to run 750s; Americans should just adapt the 500cc class. There's no sense in sittin' on 750s forever if you've got a perfectly good 500 class that everybody else is responding to.
Q: There were rumors that Honda wanted you to ride for them.
A: About three years ago they did, but lately there hasn't been anything that I've known of. Honda will sit back and wait for a while and see what happens, and then they'll choose from the likely candidates: me, Sheene, Baker and Cecotto.
Q: I guess it's just a question of money. Honda offered DeCoster twice what he was getting from Suzuki.

**A:** Yeah. But Roger's been with Suzuki a long time; I've been with Yamaha a long time. Honda'd have to offer me more than double what I'm getting now, and it'd have to be a multi-year deal. Yamaha's been so good to me that I'm not apt to just up and leave 'em. I'm plenty happy right where I am. Honda needs a good rider; Honda'll pay money for a good rider. But there are other good riders around who'll cost a lot less than me.

**Q:** The TZ750 started off as a 700 four years ago and has been steadily developed into its present form. During that entire development period, was there ever a time when the bike went backwards?

**A:** Not the 750. The Japanese constantly compile their data on the 750, and halfway through a given season they're already working on the next version. That's what they send us. First, they had the regular version—the one with conventional shocks. Then they had the monoshockers—just a regular frame with a monoshock unit added. There were four of those. Then they came out with the OW—four of those—and then there was the standard OW—the for-sale model. Now, again I have a new one.

**Q:** How is it different?

**A:** It's a little lighter, and the frame's been altered. It's a pre-production version of next year's stock model. See, Yamaha will continue to change the TZ, but they don't like to make changes until they've tested them for a year with their factory riders. My bike has a standard engine—standard cylinders, standard crankcases, standard heads—but let's face it, it's a tricker motorcycle. Next year it'll be the standard motorcycle that everyone can buy.

I also have a new pre-production 250, very similar to the little bike me and Kel built last year. Now, that's a pre-production 1979 250; next year, everybody will be able to get the little 250s.

**Q:** In your estimation, who besides Carruthers is a good tuner on the 750 or the 250?

**A:** There are good tuners without good riders, and good riders without good tuners. Bud (Aksland) is real good; Kanemoto is real good. Actually, a genius tuner on a TZ750 just hurts you. All you need is a guy to put one together. Working on a 750 Yamaha isn't like working on a Kawasaki or a Suzuki, where you have to take the cylinder and make it this or make it that. On the TZ, it's already *made;* you just have to bolt it together. Some tuners find that very hard to do.

**Q:** For an average guy, a good rider, how much work does he have to do to a standard TZ250 road racer to get it truly competitive?

**A:** The standard motorcycle is about as competitive a bike as it will ever be for the average rider. You can raise the power band and so forth, but around the whole race track, all he has to do is be able to ride the standard bike. He may be down a bike-length on the straight, but if he starts fiddling with it, he'll be down a bike-length on acceleration, which is worse. A whole lot worse.

My 250 has a standard cylinder and a standard crank. I did have some light cranks once; the engine would accelerate quick, but you had to shift so much that, around the race track, it was slower. Guys who "T" their flywheels, or "V" 'em, are just going backwards. Actually, my 250 engines are so standard that nobody would believe it.

**Q:** But you've got these guys in kind of a blind switch. A lot of them understand that they're not going to be able to stay with you, because they can't ride well enough. That leaves them only two alternatives: either accept that the bike is as good as it's ever going to get, and so are they; this leaves them with no hope for any real progress. Or, they can *question* the fact that the bike's as good as it's ever going to get, and start to fool around with it. As long as there's something to fool around with, something to improve, there's hope. Too, this can serve as a kind of deflection: it can keep 'em from seeing where the real problem is: their own riding ability.

**A:** Yeah, don't confuse them with facts.

**Q:** It's difficult to admit that the big problem their program has is that they can't ride the bike.

*(Continued on page 138)*

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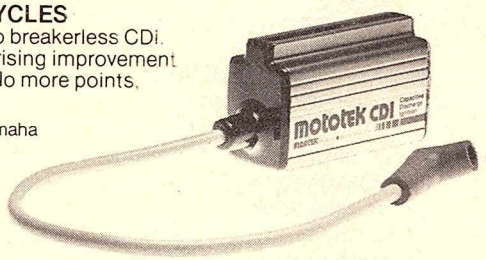


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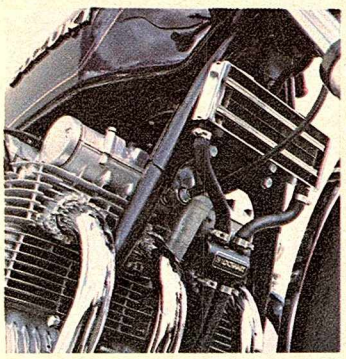

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A: Certainly a faster bike helps. But striving to get a faster bike by taking a porting tool to the cylinder, without knowing what they're doing, only makes it worse. They get frustrated, they spend all this money on cylinders and heads and so forth, then they figure my motorcycle is really trick when in reality it's stocker than their bikes are.

The higher a 250's power band is, and the narrower it is, the more difficult it is to keep momentum up. Everybody wants to slam on the brakes, stop, accelerate off the corner and pass somebody. It doesn't really work that way.

Q: Are the 250s pretty forgiving?

A: They are to the extent that you can get 'em sideways and not fall off, but as far as the powerband is concerned, no. You've got to keep everything *going* right. If you lose a little bit of momentum coming out of the Horseshoe at Daytona, you're not going to be able to make that up for three or four corners.

I can make my 250 look a lot faster than it really is at Daytona by coming off the Chicane harder than anybody else.

See, I've been down on horsepower as much as anybody. People forget that; all they think is that my 250 is so fast that nobody can run with it. I've had a fast motorcycle at Daytona only one year, and that was 1977. I lost to Vesco's 250 there one year [the rider was Dave Smith], I lost to Castro's 250, and two years ago I had that race with Baker and Hennen, both of whom had faster equipment.

Q: Do you ever stop and think, especially with regard to the 250, that you're the best rider in the world? Do you ever think, there isn't any other living human who can ride a 250 road racer as fast as you can?

A: Well, you can *think* it, but until you prove it so everybody knows. . . . You can think anything you want. I'm sure Steve McLaughlin believes he's the best racer in the world. You believing it isn't what counts. Look at the record book—then you don't have to tell anybody. I don't want to *tell* anybody I'm the fastest on a 250; I just want 'em to know it.

Q: Do you think anybody doesn't?

A: No anybody that I've ever raced with.

Q: I heard you tell Kel last year before the 250 race at Daytona that you were going to go out there and get behind whoever was in second for the early part of the race, and for him not to get worried about it. You do that frequently. How come?

A: I don't know. Probably at the time I had a good reason. Mainly I like to have a chance to look over the opposition, to see who's doing what where, and to see where they're doing it wrong. The 250 race at Daytona last year was fairly cut-and-dried. I had two seconds a lap on everybody, so there was no need for me just to take off and split. I wanted to beat 'em bad, but there was no need to go out and blitz everybody. I would have raced

with 'em a lot longer last year except that little Italian [Franco Uncini] pissed me off when he cut me off in the right-hander, for no reason. That made me mad. After that I wanted him to follow me through the left-hander—wanted to suck him in there.

I wanted to race with 'em, for a couple of reasons. It makes a better show, and I have more fun when I can ride with someone. But when they start doing stupid stuff like that, it's no longer worth it. He almost ran me into the grass in the Horseshoe. So I got up with him on the next short chute. I wanted to suck him right off his bike, but he didn't get in my draft.

**Q:** Those Harley 250s were fast bikes last year.

**A:** Yeah, they're really good little bikes. But they're going through what we went through three years ago. It just takes the right combination, and they've got it laying around somewhere in their shop. They have to find it. It may not be the best on the dyno, but it'll work out the best for 'em on the track.

**Q:** You had the same sort of problem with your 250 two years ago. You were riding a bike that had a terrific amount of dyno horsepower, but it wasn't what you called useful power.

**A:** You go through stages like that. Two years ago it had good power at 11,000, 12,000 rpm, but it wouldn't work *around the track*. I don't like to have to scream an engine, and I don't like to have to upshift one more time than anyone else. The more rpms you have on your back-shift, the slower it makes you go into the turn. It's gotta go in with the engine speed low if it's going to come out good. You've got to be able to build up your rpm through the turn. If I've got to upshift to come out of a turn, well, I just can't ride 'em. Most people can ride 'em like that; I can't. Nixon's the best one at that I've ever seen. He'll shift three feet out a corner and do it every lap. He can over-rev 'em, shift right in the middle of a corner, and it doesn't bother him.

**Q:** You had one horrible year with the 250.

**A:** Yeah. Got beat by Baker at Laguna, and finished something like 11th at Ontario. I'd been telling Kel all that year that the Harleys had me outpowered, and at Ontario the Kawasakis had power on me too. So I just went back and rode around with Skip for the whole race. It looked so bad that we just *had* to work on it. After that it got better—but before it got better, it got worse, actually. We went through a lot of stages where we'd raise the rpm, making it faster, but for me, it wasn't as good around the race track. There aren't many times you can run it 11,000, 12,000 rpm. Sooner or later you have to drop down to 10,000, and then you're in trouble.

**Q:** It'd be interesting sometime to find out what happened to those European Harley 250s. Those things were jets; they won the World Championship two years in a row, then last year, everything fell apart.

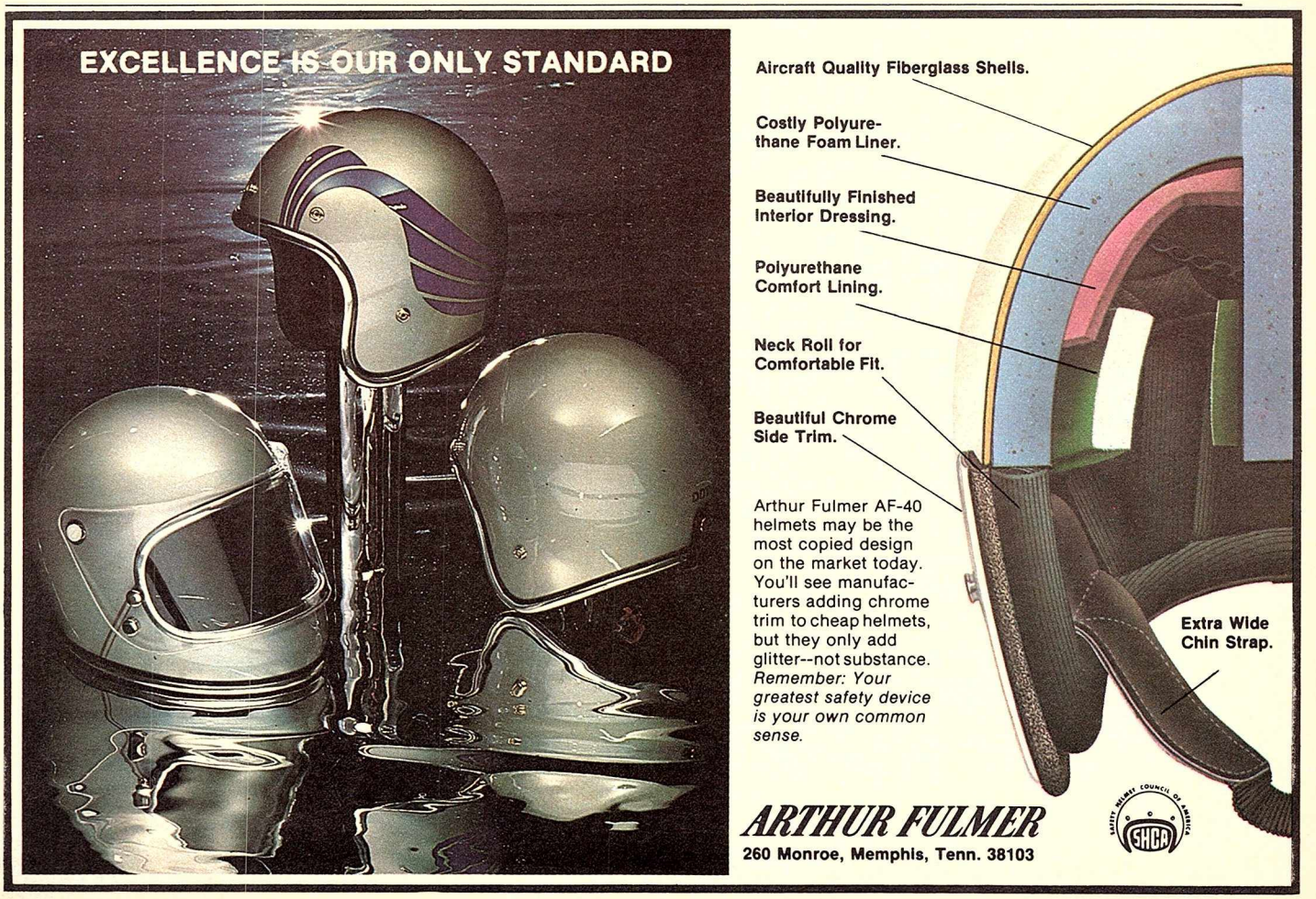
**A:** I don't think their combination on the race track was working as well. I personally didn't like the way they looked on the track; I always thought they had too much engine weight too far forward. It's just a matter of getting the chassis, and the rider, coordinated. They've never really had a rider who could say, "Jeez, I think if the engine was here instead of there, it'd be better." Their riders have never known what a good Yamaha is like, or they haven't had enough experience to figure out where everything should be.

That's one of the things that hurt Stevie [Baker] last year on the 500. I don't think he's had the development experience I have with chassis and engine weight location and geometry and trail and stuff, experience you need to make a decision one way or the other on how to make the bike better.

**Q:** Do you consider your technical knowledge and understanding to be one of your biggest advantages?

**A:** That has a whole bunch to do with it. You can tell some people to move the engine a quarter-inch one direction or another and they think, that won't make any difference; or they think, that's not *trick*. Well, there's nothing *trick* about racing. It's all work. It took us a lot of work on the 250 to get the engine location just right. Moving it a quarter-inch is not trick—

*(Continued on page 140)*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**THE KING**.....*Continued from page 139*

but you have to know why you're doing it, what you're trying to correct. You don't have to move it four inches, either. To make it right, you're working with quarter-inches, eighths of an inch. Not trick—just a lot of work, and a lot of development.

Q: Who was behind the restrictor rule: the AMA, France, or was it you?
A: Well, I was the first one who told 'em that they ought to slow the bikes down. At the time, only me and Cecotto knew how fast they could go. The response was, they're only three or four fast motorcyles, so why make everybody else suffer? But what the other riders don't realize is that in two or three years, they're going to be in the same predicament Cecotto and I were in in 1976: *they're* going to be going sideways at the start-finish line at Daytona, and *them* guys aren't going to be able to handle it. The guys who don't know yet how fast the TZ750 can go—they're the guys who'll be hurt the worst. All this speed doesn't help anybody. Sometime, the tire people have to catch up. There's no way they can predict how fast the TZ750's going to be when they bring the bike out for the new season. They develop a tire based on last year's race, so they're always a year behind. If we went 2:05s last year, they develop a tire that will last for 220 miles going 2:05-second laps. When we get to Daytona we cut our times about two seconds per lap; no longer is the tire good for 220 miles.

With the restrictors, during tire testing in January, my lap times were 2:06s. One guy said he didn't think the restrictors made much difference—the bike was only two seconds slower than the speed we had qualified at the previous year. But the point is, how fast would we have been going *without* the restrictors? 2:02s? Two-flats? The restrictors *stopped* the progression of speed; the tire companies could catch up.

Everybody who's crying about the restrictors thinks that I'm going to have a big advantage. I am. So are a lot of other people: people who can ride the motorcycle *right*.

Q: How different is a typical Carruthers/Roberts TZ750 motor from, say, Skip's?
A: Mine has a little more top-end. My exhaust pipes are different than Skip's. The big thing that helped our 750s were the Lectron carburetors. They produce a harsher kind of power, but more of it everywhere there was power before. The bike's harder to ride because of the power increase.

We used 'em for the first time in practice last year at Daytona. I didn't like 'em. Then we used 'em at Charlotte, and the difference in acceleration was really noticeable. Then of course Skip wanted a set. He put 'em on for Loudon, and just took off. His bike was faster then than Baker's.
Q: Really?
A: Yeah.

As far as the engines are concerned, mine are no different than anybody else's. Nobody's going to believe it—the riders all know that my gearbox is special, everything is special. The OWs the factory built for 1976 were originally bikes they were going to use for the 750 World Championship. The motors were just standard 750 motors. The trick stuff was in the chassis—they were much lighter than regular TZ750s. But what the OWs were, were pre-production prototypes for the 1977 TZs. The bike I got for last year—1977—was just like Skip's or anybody else's, except it had aluminum stingers. Anything special that gets done to the engine gets done by Kel; the factory doesn't do anything to the engines.
Q: How much power is in one of those engines?
A: I think they're up to about 135 now.
Q: Is that a Carruthers motor, or a stocker?
A: Carruthers. But if you take a stock engine, don't do too much to it, put some Lectron carbs on it and match the transfer ports, you're going to have 130 horsepower. When guys start lowering this port and raising that one, it may rev more, but I

*(Continued on page 144)*

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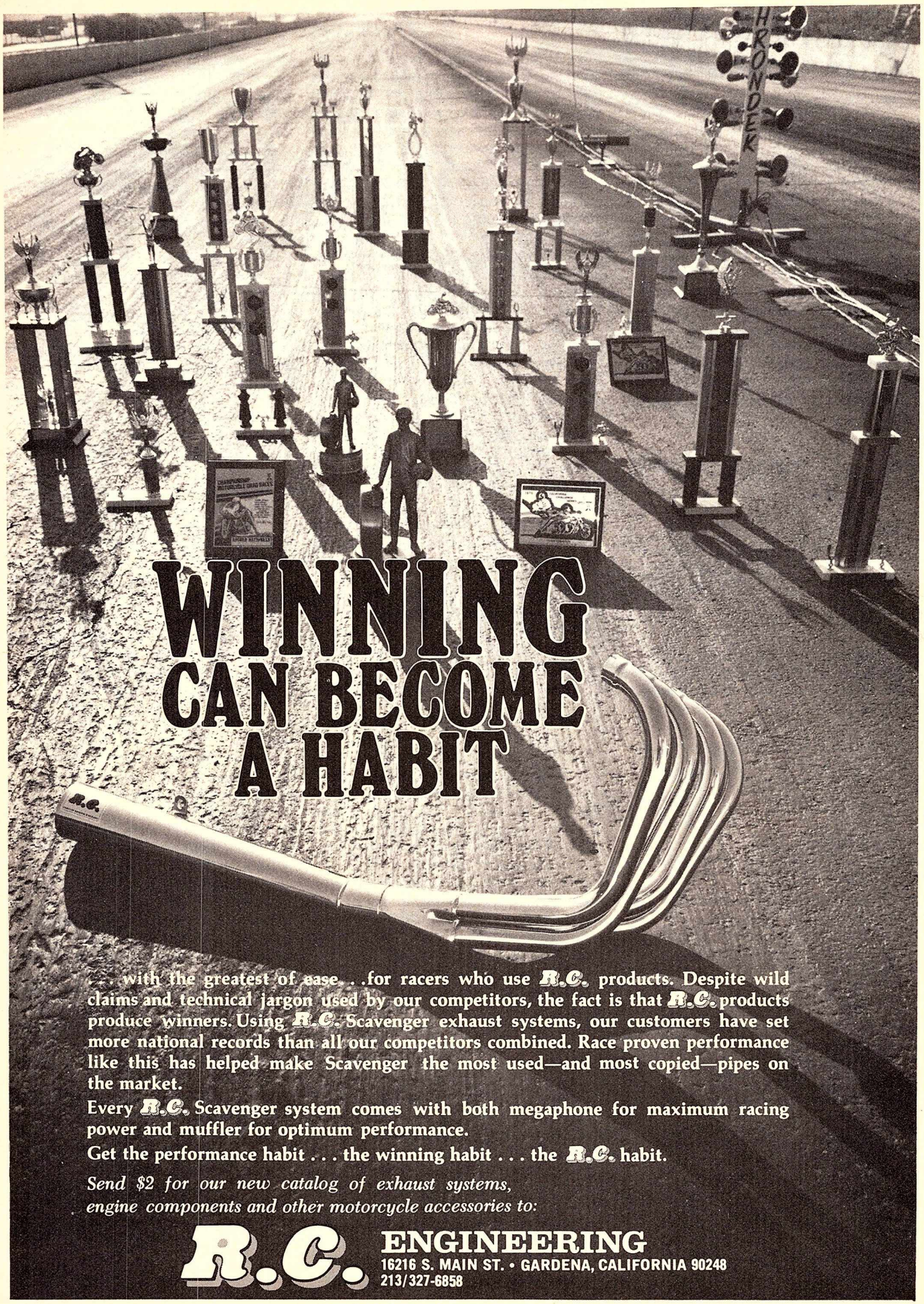


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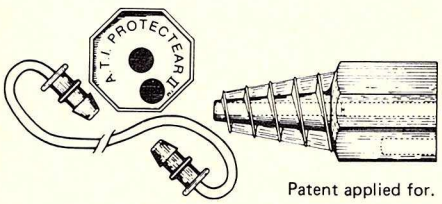
CIRCLE NO. 40 ON READER SERVICE PAGE.

# DON'T GO DEAF!

## Use the new hearing protector you can hear with.

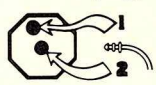
Bike riders are exposed to noise levels of 95-100 dBA and can lose as much as 25% of their hearing in as little as two years of exposure. Hearing loss is so gradual, that by the time you recognize it, it's too late – your hearing is gone forever. A big price to pay for something that can be prevented! So it's important to wear hearing protectors every time you ride. Protectear II has an Acoustical Filter that reduces bike and other injurious road noises to a harmless level of 80 dBA or less, while allowing normal conversation and vital communications to be heard. What's more, Protectear II fits smoothly, undetected under helmets.

## New! Protectear II™




Patent applied for.

The Protectear II special lanyard is used in the outside position as a retention cord, permitting conversation and warnings to be heard (see Arrow 1). When inserted in the vent (Arrow 2), it provides total occlusion. Your bike plug can then be used for sleeping, swimming or other situations where a total seal and maximum noise reduction is desired.




- One size fits most ears.
- Non-toxic, non-allergenic FDA-approved elastomer.
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- May be cleaned in soap and water – no moving parts to break or wear out.
- Accepted by OSHA.

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**Aural Technology, Inc.**
**12722 Riverside Drive, Dept. C68**
**North Hollywood, CA 91607**

Send me a pair of Protectear II at $4.95.
I enclose a check or money order.
(In California add 6% sales tax. Add 50¢ for shipping and handling.)

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*CITY* _____
*STATE/ZIP* _____

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OR SEE YOUR LOCAL DEALER


**THE KING**.....*Continued from page 140*

think it hurts 'em. Most people don't understand: the factory sits over there, and runs dyno tests all day long, and then they sell the best possible combination. I know what goes into Stevie's bike, and I know what goes into Cecotto's bike, and they all run standard 750 stuff.

Jarno Saarinen came to Daytona when we had 350s. He took a Kel Carruthers cylinder off his motorcycle—the only thing Kel had done to it was match the transfer ports—and he looked at it, put it on the bench, and said, I want a standard one. They gave him a standard cylinder. He looked at it and said, I want another one. They got him another standard one, he looked at it, and plopped it on his motor. He never touched it with a porting tool, never knife-edged anything. I think Kel's bikes had miles per hour on his—but *he* won the race. On an absolutely standard motorcycle. That's the way those guys ran 'em. I watched Agostini put three 350 cylinders on his bike at the Assen TT. They were all standard cylinders, and all the same except some cylinders run a little better than others. Ago went through three of 'em, found one that was pretty good, and stayed with that one.

**Q:** You've probably been victimized by the AMA's claiming rule more than anybody. Is your view of the claiming rule the predictable one?

**A:** Yeah, I think it's a bunch of bull in that nobody's hurtin' to buy a TZ750. All you've got to be is good enough to *ride* one, and you can buy it. The reason people claim my bikes is to find out what Kel does to them. Kel gets paid to work on TZ750s for *me:* to make them the best possible motorcycles he can. He doesn't get paid to make 'em faster so people can buy what he makes. When you claim one of Kel's engines, you claim all the knowledge, all the work, all the man-hours and all the flow-testing he did.

The reason the claiming rule exists is to keep the factory from making one or two special motorcycles. But when one of our engines gets claimed, that doesn't have anything to do with the factory. Now, for $4000, you can find out what Kel does to an engine. I think that's wrong. For that amount of money you can find out what Kel does, and because of it Kel isn't worth as much money to Yamaha, or to anybody else. I don't think anyone has the right to buy what knowledge Kel has. If everyone has what Kel knows, then Kel has no bargaining power. Just like if everybody could buy my leathers and all of a sudden they could go as fast as I go, then I'm not going to be worth as much money.

Besides, if somebody does claim one of our engines, like Gary [Scott] did, they're not getting anything special. They're getting a cylinder that's been cut on with a porting tool and it'll go 5 mph faster, but they're not geting a winning motorcycle. They're getting *an engine.*

I had a dirt-track engine claimed a couple years ago, and that was different. I told Yamaha from the beginning that they should sell that dirt-track OW stuff. The other guys should have been able to buy it, and they couldn't. So I don't blame 'em for claiming the dirt tracker engine.

But the TZ—hey. I can take a stock TZ engine, anybody's engine, and have it going almost as fast as mine—just like that. And I can win any race on it.

**Q:** You can probably win any race on a stocker.

**A:** Well, a stocker has 10 horsepower, 15 horsepower less than my bike. Bolt Lectron carburetors on it, clean up the ports and it's got a lot more. Then all you've got to do is ride it.

And that's hard to do. It's harder to ride the bike than it is to scrape up $4000 to claim one of Kel's engines.

**Q:** Tell me about the Professional Riders Association.

**A:** My idea is to help the AMA promote motorcycle racing. The AMA is trying to promote the AMA; I want an organization that's strong enough to promote motorcycle racing. Not to promote *me*—but to promote the riders in general.

**Q:** If an organization is going to have any real clout, it's going to have to be able to present a unified front.

**A:** Right. All the riders are for it; we've already got the top 20 in it, and I think the others will join too. It only costs $50.

**Q:** What'll happen if you go to a track and it's patently unsafe, or the promoter hasn't been able to fulfill his guarantees. You, or another representative of the Association, says, "That's it. We're not riding." But then maybe two or three riders say, "Hell, we'll ride. It's easy money—more than we conventionally make." Then what?

**A:** I would like to hope that, when they sign as members, they're *in;* that membership is binding.

But what I want to stress is that we don't *want* to do that at race tracks. All the riders seem to want to help the organization. Like Springsteen—he'll do everything he can to help.

**Q:** How are you going to use the membership funds?

**A:** First, we'll use the money to get a representative in the AMA. A rider can't do that job—it's too hectic. We want someone who can inform us of everything the AMA is doing that concerns professional racing.

**Q:** Have you thought about projecting it large enough to include AMA professional motocross riders?

**A:** Well, I am not in contact with the motocross racers. Ideally, we would like to be in a position of sending a PRA representative to the motocross riders who can say, "This is what we have going. Would you like to be a part of it?"

**Q:** There is a large number of motocross racers who are directly or indirectly affili-

*(Continued on page 146)*

# Hi-Q PRODUCTS, INC.

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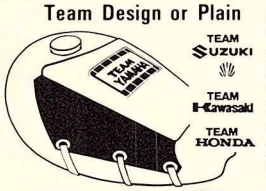


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27 Hon 29 Kaw

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Child 6-8, 10-12, 14-16

No. 11 Yamaha No. 13 Suzuki
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**Specify 8" or 12" Size Team Colors**

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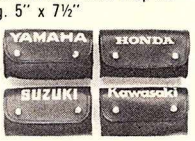


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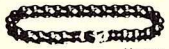

No. 70 Boy's
No. 80 Adult
Heavy Chrome Finish

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**With Short or Long Sleeves**

Your name or other message on back of nylon team jersey. One or 2 lines, 10 letters maximum per line. Numeral (your choice) from 0 to 99. Jerseys described at left and below. Use special lines in order blank.

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11P Yam 13P Suz **NO** 76P Yam 78P Suz
12P Hon 14P Kaw **CODs** 77P Hon 79P Kaw

Sizes: Adult S-M-L-XL Child 6-8, 10-12, 14-16

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Hi-Q's great U. S. made nylon team jersey. Cycle action design on chest.

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Adult Sizes: S-M-L-XL
Child: 6-8, 10-12, 14-16

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**Cycle Emblem Front & Back $21.99**

01B Yam 03B Suz
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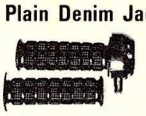
**Plain Denim Jacket (No Emblem)** No. 05 **$18.99**



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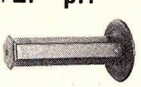
## HEX GRIPS $2.49 pr.



Quality grips fit all handlebars

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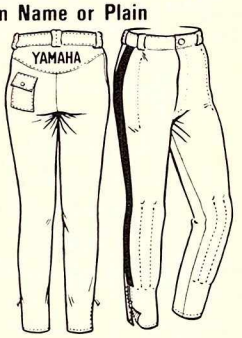


Waist Sizes 24-26-28-30-32-34-36-38-40

Colors: Racing BLUE with RED trim, OR GOLD with BLACK trim.

No. 100 Plain **$27.99 pr.**

No. 100P (No CODs) PERSONALIZED Give lettering in coupon **$34.99 pr.**

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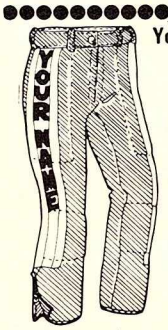
101 Yamaha 103 Suzuki 105 Hodaka 107 Bultaco
102 Honda 104 Kawasaki 106 Husqvarna 108 Can-Am

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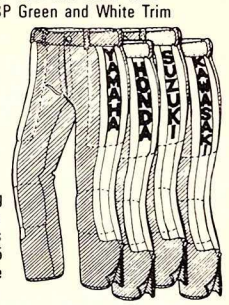


**Red, White, Blue Stripes, No Name $17.99**

Waist Sizes: 24-26-28-30-32-34-36-38-40

| | | | |
|---|---|---|---|
| No. 71 Yamaha | $18.99 | No. 85 Hodaka | $18.99 |
| No. 72 Honda | $18.99 | No. 86 Husqvarna | $18.99 |
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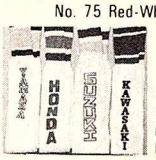


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TRACY DESIGN

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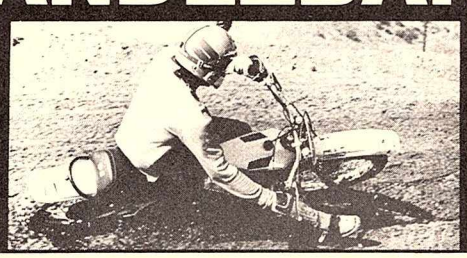
# INTER-AM HANDLEBARS



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**THE KING** .....*Continued from page 144*

ated with a major distributor. They have contractual arrangements with someone besides the race promoter; they would be torn between honoring those contracts, or hanging together to oppose the practices of a particular promoter. They'd be balanced on a knife-edge.

**A:** Well, they'd have to race. But see, I'm not one to say, "We want a $200,000 purse for Daytona." Obviously Daytona isn't going to pay it. But I believe we can work with the promoter, and with the AMA, to get a larger purse. I'm not saying the promoter has to starve to death to build our sport. I don't believe that; I'm not saying the promoters shouldn't make a lot of money. But I believe the riders ought to be making some money too. Why don't we start upping the purses and reducing the number of the events? Last year I ran just about every weekend—that's crazy. Stupid. I don't believe there's a single rider who wants to run 34 races in a season. I told the AMA that. They said that it gives the riders more chances to make money. I said no, it gives the racers more chances to *lose* money.

In some areas, like Southern California, there are four races within a 300-mile radius. That's assinine. You saw what happened: it killed Riverside, and Ascot was really bad. Right now there are four or five guys making a living as professional motorcycle racers; for the rest, it's a sport.

I don't know why the AMA needs so much money to do everything; it's killing the riders.

And I hate it when the little riders get crapped on. Like Eklund. He's settin' at home and all of a sudden he gets a letter from Doug Mockett saying that he better get his butt to Pompano Beach or he'll be suspended for the 1978 season. That ain't right. So he flew his motorcycle down there—for what? For the $400 you get for showing up? Somehow it doesn't add up. I'm not sure we need that kind of dictatorship in the AMA [Commissioner of Racing Mockett is commonly referred to as the Czar of Racing].

**Q:** If it's an *enlightened* dictatorship, it can work. It certainly works in the NFL. But the NFL also has a very powerful players' association, so there's a formalized relationship between representation from the players and the league office of Commissioner Rozelle.

**A:** I know that. For it to work you have to have reliable people; you can't have a berserk-o in there making stupid statements and doing stupid things that aren't fair for either side. I'd love to see Terry Tiernan in that job. Tell you what: I'd put up $5000 of my own money if Terry'd do it.

**Q:** Which brings us to the Race of Champions situation involving you, the race promoter and Commissioner of Racing Doug Mockett. What was that all about?

**A:** My neck's a little stiff about that. At the

*(Continued on page 148)*

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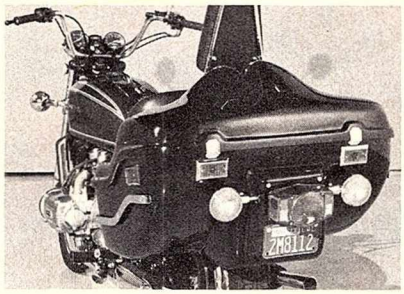

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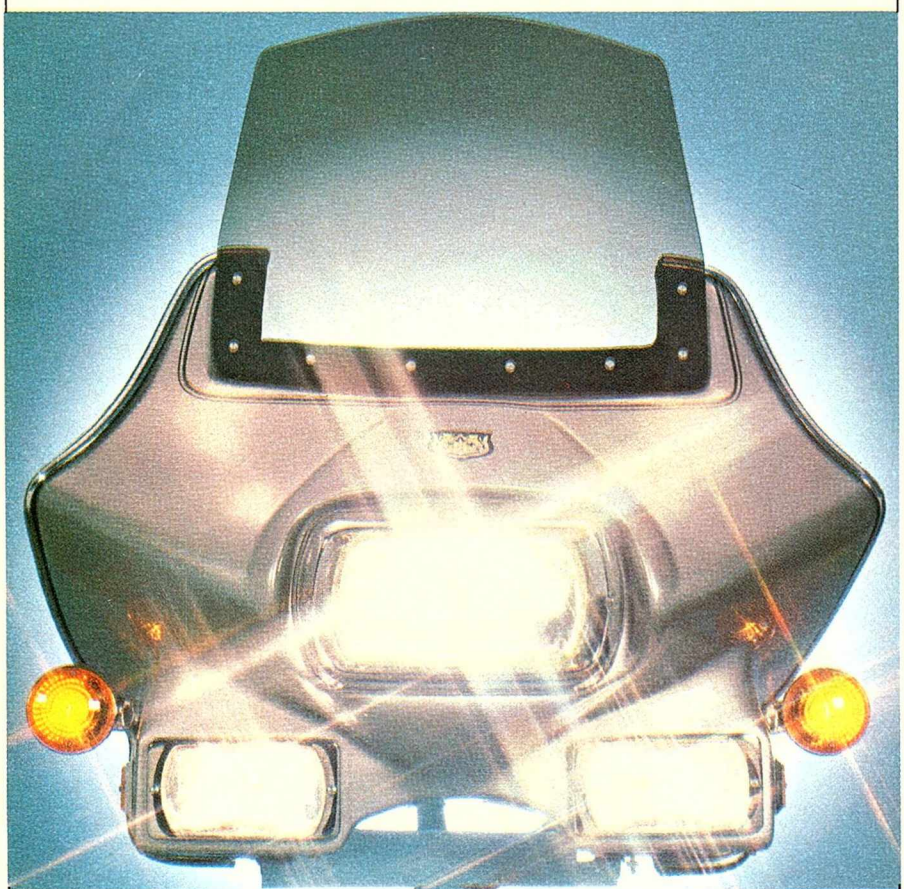
# Fleetwood



The excitingly new 1978 Fleetwood is custom engineered for today's riders. Sporting three quartz-halogen lights but most of all, its craftsmanship and care behind this great name, plus the special pride of the people who design and build these quality fairings. Now you can enjoy each new day more than the last. The elegant refinement and luxurious custom design make it the most exclusive and distinctive fairing available today. You owe it to yourself to find out more about this remarkably fine fairing. Send $1.00 check to cover postage and handling to:

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end of '75 they were going to pay everybody $300 to show up, and I said there ain't no way they're dragging me to Louisville, Kentucky for $300, two weeks after the season was over. I told 'em I'd do it for two grand. But instead of the promoter talking to me, he went through the AMA. Ed Youngblood was the director then, and he wrote a letter to me and to the promoter. Youngblood said that this was a ridiculous amount for a rider to ask, and that there was a time when a guy has to do something for the sport.

It all made me mad. I cornered Mr. Youngblood at Daytona the following year, and told him that if I wanted a manager to organize my start money, I'd hire somebody who knew what the hell he was doing, and that if he ever did that again, I was gonna sue his ass, and that what I ask a promoter for is none of his goddamn business, and that during his future years with the AMA to stay the hell out of my negotiations with a promoter.

The next year, here came the Race of Champions. Mel Parkhurst [of the AMA] wanted me to go pretty bad, and I said Mel, here's what we're going to do: for $2500, I'll be there. Not a dime less. You tell that promoter to call me.

A week before the race Mel called me and said, why don't you just come anyway, and we'll try to get you some more money. I said, $2500, and I'll make it. Nothing happened; see ya later.

So then here comes 1977. Parkhurst said Kenny, I really need you at Pompano Beach [1977's site for the Race of Champions]. Can you go? And I said, not for less than $2500—standing my ground. My mechanics' contracts were up and it'd cost me at least that to come down there.

Then Mr. Mockett phones me up. Says, what's this I hear about you not going to the Race of Champions? I said, that's right. He said, why not? I said, because I guess the promoter doesn't want me. We're not agreeing on money. He said they were guaranteeing $800—$400 to show up, and $400 for last place. I said there ain't no way in hell I'm coming for less than $2500.

I get a registered letter, sent to Yamaha: please be aware that if Kenny Roberts does not show up for Pompano Beach—this is four or five days before the race—that he will be suspended for the 1978 season, and fined. I wasn't going to go, no matter what kind of letter Mockett sends, and I advised Ken Clark to give the letter to Yamaha's legal department. He did. Dave Tucker, who was handling it for Yamaha, got back to me, and said, man, this guy—Mockett—is just berserk. I said I knew that. I wasn't going to race. But I did want to go down there and be the color commentator for Ken Squier, who was filming it for CBS.

And I did go, but Squier couldn't get it set up for me to do the commentary

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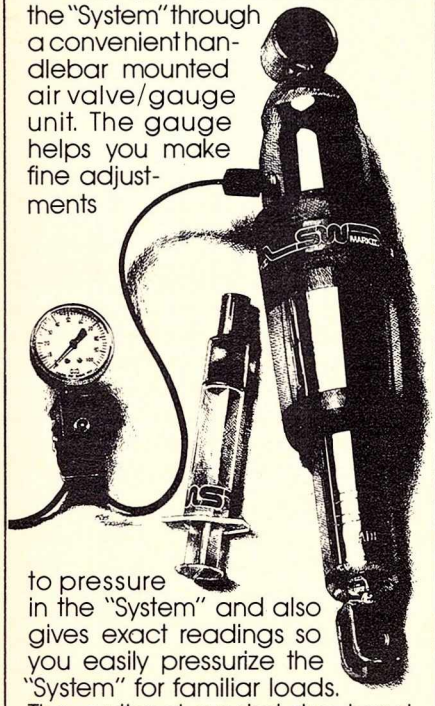

to pressure in the "System" and also gives exact readings so you easily pressurize the "System" for familiar loads. The optional pocket-size hand pump makes on-the-road pressure changes easy.

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CIRCLE NO. 43 ON READER SERVICE PAGE.


because they have to go through the unions to do that sort of stuff. So I went and watched the race. As it turned out, there was no fine, and no penalty. Mockett proposed a one-dollar fine and a one-day suspension, and I said I wasn't going for it. Finally, as a way out, there was some talk about a low-grade infection that I'd had since the first of the year, and that was why I hadn't raced at Pompano Beach.

One of the things that made me mad about Youngblood and Mockett was their saying that there are times when you have to do things for the sport. But what's the sport paying Dick Mann? Here's a guy who put in 30 years to build the sport, and now what's he got? Nothing.

**Q:** You've been racing at the highest level for five or six years now. Are there any particular experiences that stand out in your mind, highs or lows?

**A:** Sure. Lots of things. There were a lot of people who said that if Kenny had done it this way instead of that way, or stayed with this guy instead of that guy, he'd have done a lot better. Only thing I can say is, I did it my way, and if I did it all over, I'd do it my way again. It may have hurt me, but then again I don't have any regrets either. Through all my racing I've done what I wanted, and with people I wanted.

I guess the worst I felt was this past year, at Oulton Park, where I usually fall off. The track's a crazy, dirty, rotten thing; the lines you take aren't the proper ones, they're the *clean* ones. Going that fast, it's hard to see mud on the race track, gravel, that sort of thing. Well, I totally lunched the first engine, and Skip was riding my spare because he lunched his the race before that, at Mallory. So I rode Stevie's bike, which was really a lot different than mine. All we had to do was finish. I got off the line fourth or fifth, and worked my way up behind Stevie. All I wanted to do was follow him around. But I went a little high on one turn, squared it off, came down towards the inside, and that bike went away so *fast*. I was underneath it, and it chewed me up.

Kel was mad at me. I didn't have to beat anybody, and he figured I was trying too hard, trying to beat Stevie. I wasn't—the thing just went away. I couldn't tell Kel—he wouldn't have believed me. It was depressing.

The races that stand out are those that were good, clean-cut ones where you knew you were ready when you got there, and performed well—like Imola this past year. I went to Italy, the bikes were both 100%, I picked out the one that was absolutely the best, and we won the race. There were no problems—none. It was rewarding to go there, have everything perfect, blow everybody off and go home. You don't get that very often; it's hard to put all those pieces together so the puzzle comes out clean and neat and you can fold it up, put it in your box and save it. ◉


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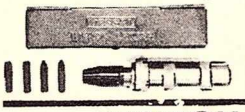

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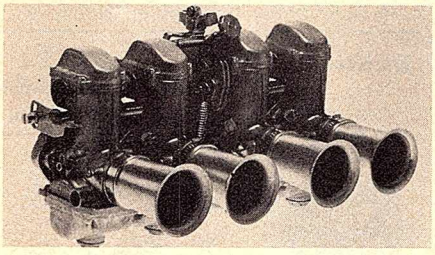
# newsline

## A Spender's Delight

*GEM Super Carbs:* Most people know GEM for their rear-end gear-sets for GL1000s. Now, working at the other end of the power train, GEM introduces 29mm Mikuni Smoothbore Carburetors. The carb kits are specifically designed for the Honda 750, Suzuki 550, 750 and 1000, and the Kawasaki 650, 900 and 1000 fours. All machines use stock cables and



manifolds for installation of the new unit, except the Honda 750 which requires optional rubber adaptors. The kits' spun aluminum ram tubes match with stock Suzuki and Kawasaki air boxes. The Honda works best with special individual filters. For additional information, write: GEM Products, Inc., 469 East St. Charles Road, Carol Stream, IL 60187.

CIRCLE NO. 1 ON READER SERVICE PAGE

*Yumicron:* The name may not be what some Madison Avenue folks might pick for an important new battery, so perhaps the Yuasa's Engineering Dept. dubbed this new product. To be sure, there's a lot of engineering in it. Yuasa has developed what they claim is the most powerful, compact lead-acid battery. The Yumicron yields up to 30 per cent higher terminal

voltage by minimizing the resistance between the plates. It also provides that voltage for as much as 200 per cent longer under the same conditions. And the lower internal resistance supplies more current to the starter and a stronger spark. The YB12A-A battery shown here is designed for the Honda Hawks I and II, and the Honda 400 automatic.

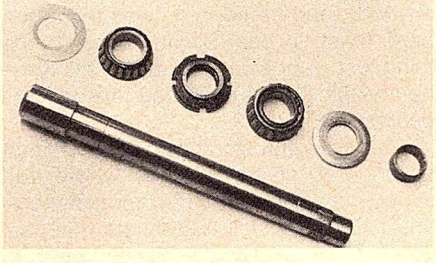
CIRCLE NO. 2 ON READER SERVICE PAGE

*Bigger Bores:* Wiseco Piston, Inc. now offers 844 and 870cc overbore forged pistons for the Suzuki GS750. Compression ratio is increased from 8.7:1 to 10.25:1. Both kits were developed to increase performance and reliability, according to the manufacturer. The high-density forged pistons are supplied with a

chrome top ring, and reverse torsional twist second ring and a three-piece oil ring. Only cylinder boring is required. Kits come complete with pistons, rings, wrist pins, circlips, overbore head gasket and complete instructions. For further information: Wiseco Piston, Inc., 7201 Industrial Park Blvd., Mentor, OH 44060.

CIRCLE NO. 3 ON READER SERVICE PAGE

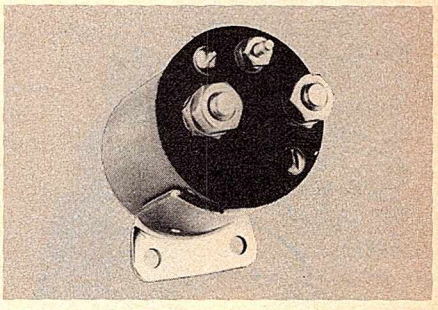
*Precision Handling:* Warland Engineering has developed a steering assembly that provides a marked increase in mechanical strength for the Kawasaki Z and KZ four-cylinder bikes manufactured since 1973. According to the manufacturer, these components improve the steering precision and stability for responsive, high-speed performance. The kit includes



all parts necessary to modify the stock steering stem (i.e. a new stem shaft, upper and lower tapered roller bearings, seals, and stem-head nut). The kit costs $69.95, plus shipping (California residents add six percent sales tax). Warland Engineering is located at 2834 Colorado Avenue, #21, Santa Monica, CA 90404.

CIRCLE NO. 4 ON READER SERVICE PAGE

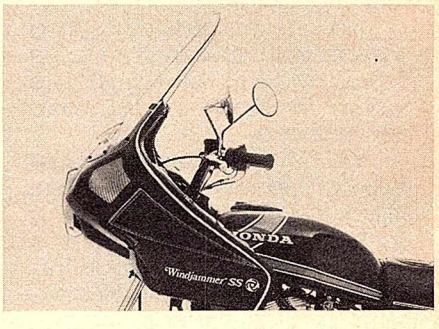
*Starting Up:* How often have you pushed your electric starter button, only to be greeted by a cheerful clicking sound, or in a more hopeless situation, the sound of total silence. If this is your problem, and if you happen to be riding a Harley-Davidson XLH-1000 or FLH, FXE-1200 model,



Beck/Arnley can help you out. Their solenoid replaces OEM 71469-65 and is a high-temperature insulated unit with 18-gauge primary and 20-gauge secondary windings. Silicone sealed cases resist moisture. For more information, contact your nearest Beck/Arnley Distributor.

CIRCLE NO. 5 ON READER SERVICE PAGE

*New Hardware:* The Vetter Fairing Company has just announced a new hardware kit for mounting the Windjammer SS fairings and Vindicator fairings to the Honda CX 500. If you already own a Vetter Fairing and if you're planning to trade your way into a new Honda, this is important news because your Windjammer or Vindicator can go on your new bike. This

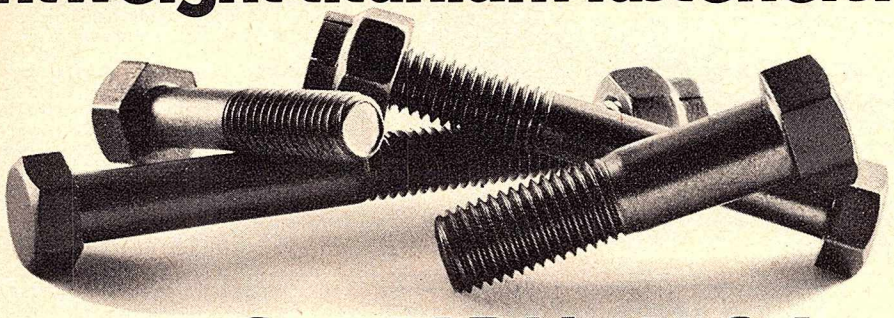



hardware kit is available through your local authorized Vetter dealer. Not only does the Vetter Fairing offer more touring comfort and weather protection, but in the case of the CX500, the fairing really improves the machine's appearance. For more information, see your local authorized Vetter dealer, or write Vetter Fairing Company, Rantoul, IL 61866.

CIRCLE NO. 6 ON READER SERVICE PAGE

*(Continued on page 156)*

# Replace standard fasteners with rugged, lightweight titanium fasteners.



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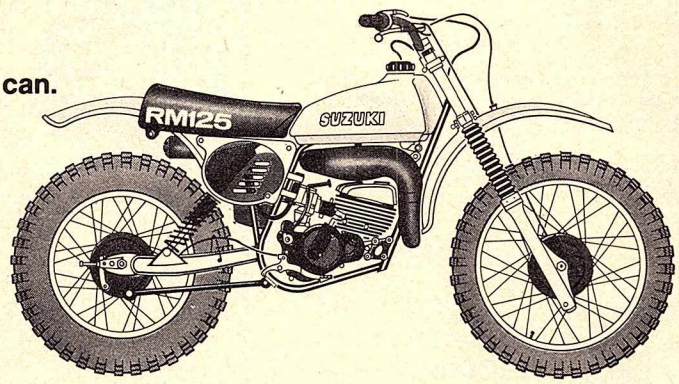


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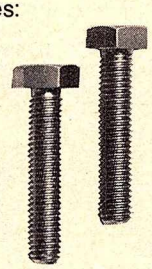

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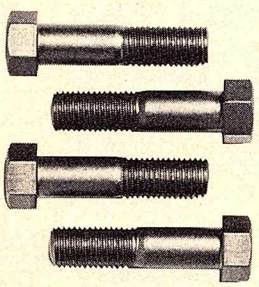
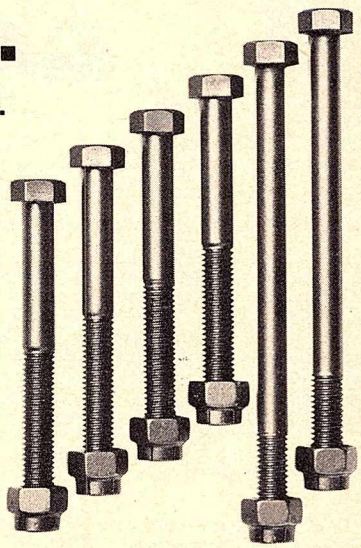


Shock Bolts



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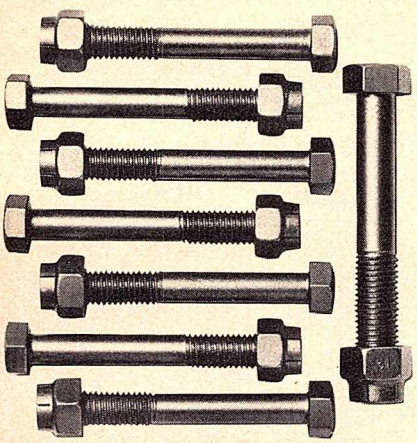

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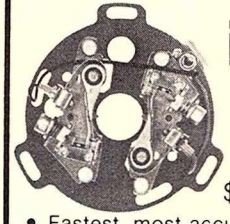

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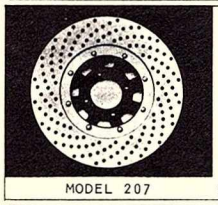


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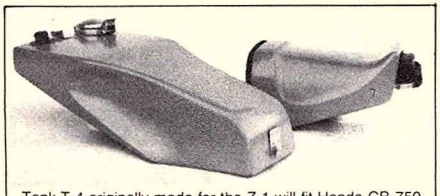

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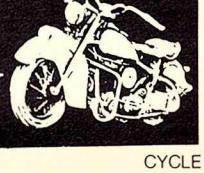

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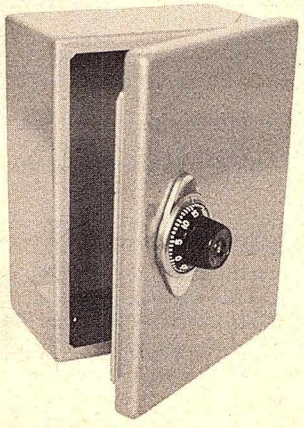
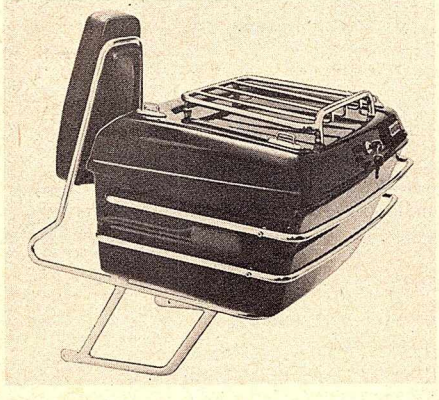
*The Stash Box:* Here's a small, lightweight security box with a combination lock that's designed for use on motorcycles as well as automobiles. The overall size is 8 x 6 x 4 inches; the box weighs four pounds, 14 ounces. Both the box and cover is 5/64-inch steel. A three-number combination lock is built into the cover which



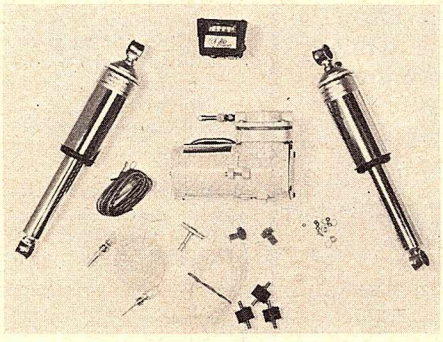
attaches to the box *via* a tamper-resistant hinge. A neoprene gasket keeps out dust, dirt, oil and water. It comes with bolts and bracket for easy attachment to your bike. Three finishes are available: Black, Gray (both $36), and Chrome ($49). For further information, contact Aurora Welding and Design, Inc., Box 161, Cudahy, WI 53110.
CIRCLE NO. 7 ON READER SERVICE PAGE

*Trunks:* AMCO has jumped into the plastic street touring accessory line for the first time with ABS-Plastic vacuum-formed trunks in black and white. The new trunks are designed to fit all AMCO luggage racks, plus most others on the market. The trunks require no hole drilling and the boxes will hold two full-coverage helmets. One unique feature is that the trunk allows for AMCO's high and low sliding backrest



to be used. And four additional accessory items have been designed for the trunks; a trunk rack, twin side rails, four chrome tie-down brackets, and a pad for the passenger in case you don't have a sliding backrest. See your dealer for full details, or contact: AMCO Manufacturing Corporation, 7425 Fulton Avenue, North Hollywood, CA 91605.
CIRCLE NO. 8 ON READER SERVICE PAGE

*Up & Down:* C & L Systems has developed an Air Ride System which can raise or lower the ride height of a motorcycle by varying the pressure in the air-charged rear shocks with an onboard compressor. The system can give three inches of adjustment in saddle height—short legged riders can lower a heavy touring bike so that they can get their feet flat on the ground. A rider can instantly adjust the ride height, load-carrying capacity and



ride in comfort, simply with a touch of a button on the dash-mounted gauge. The System includes air shocks, gauge, electrical compressor, air lines and all electrical wiring. Complete systems sell for $179; component systems to utilize your present air shocks retail for $129. For more information, contact: C & L Systems, Inc., 915 South Clay Street, Greenville, MI 48838.
CIRCLE NO. 9 ON READER SERVICE PAGE

*Gold:* The Gold Belt Line, Inc., the folks who originated the Velcro-fastening body belt, is announcing a whole new line of Team Replica belts. Gold Belt has been supplying national team riders for several years now, and this year has added five new team color combinations including red and black (Honda), blue and black (Kawasaki), red and yellow (Maico),

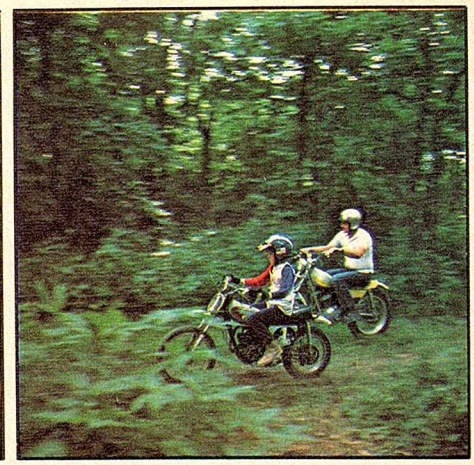
yellow and blue (Suzuki), and yellow trimmed in black (Yamaha). Of course the original Gold Belt is still available. *Cycle*'s infamous Dirt Donks are considering team colors for their Gold Belts: so far Chicken Yellow trimmed in Bruise-tone black-and-blue has the lead. For additional information, contact Dave Ekins, Gold Belt, Telephone (213) 657-1012.
CIRCLE NO. 10 ON READER SERVICE PAGE

*Night Moves:* Laminar's Nighthawk ST (Sports/Touring) fairing was created to give sporting riders a rational alternative to the current crop of large, heavy touring fairings. It mounts close to the rider and provides superior air penetration—according to the maker—and thus offers a smaller package with proper protection. Dual Cibie H-4 rectangular quartz head-

lamps, standard on the ST, provide the ultimate in night lighting. Other features include: fiberglass construction, remote headlamp aiming, built-in running lights, QD electricals, and a weight of 20 pounds. The Nighthawk retails for $299.95. For more information, contact: Laminar, Inc., 1514 Fairview, Columbus, OH 43212.
CIRCLE NO. 11 ON READER SERVICE PAGE

*Hi-Point Flyers:* Kenny Roberts designed this new road racing gear from Hi-Point, so naturally they called them the Kenny Roberts Road Racing Boots. As pure racing models, the boots are cut so that the ankle doesn't cramp when the rider is in a crouched, racing position. There's also a built-in scuff block in the toe section where boots can contact the ground un-

der extreme cornering. And there's a street model of the same boot, but the off-track version has a standard ankle cut. These Hi-Points feature the finest leather and soles possible. And the construction and styling are first-rate. Check your local Hi-Point Dealer, and then go check out a winding road.
CIRCLE NO. 12 ON READER SERVICE PAGE



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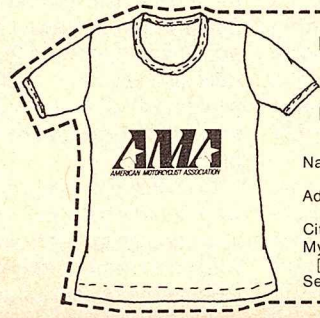


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unit starts life as an all-synchromesh gearbox controlled by a waggle-stick; it becomes a motorcycle positive-stop box in the Quasar while illogically retaining the synchro-cones. The transition is ingeniously contrived through a system of gears, control rods, pivoting cam plates and shafts-within-shafts. It works acceptably for leisurely shifts, which, given the heavy clutch lever, are probably the only kind that you can make. (The car-specification single-plate clutch is hydraulically operated.) The Quasar makes a convincing argument for one form or another of automatic transmission.

Newell initially envisaged his total concept as a smooth-contour motorcycle without the normal clutter of stuck-on pieces, and with nothing open to public view that didn't have to be seen. This thinking naturally meant a comprehensive enclosure, and its aerodynamic form inevitably led to the provision of crash-protection and weather-proofing. That the fairing should provide first-class penetration and stability largely dictated the long 77-inch wheelbase, the low 16-inch seat height and the indirect steering. And because aerodynamic principles prohibited chopping off the enclosure at a point where normal fairings end, the Quasar had to have a roof and a tail.

Leaman's streamlining exercise extracts the utmost from basic aerodynamics, insofar as the two-wheel layout permits. The leading edge of the snout exerts down-thrust to counteract lift formed by pressure build-up in the wheel arch. From there, laminar flow takes over to accelerate the air stream up the specially shaped windscreen, producing a low-pressure area, and creating a non-turbulent stream over the roof, while the screen pillars prevent the air from spilling down the sides. The roof line itself conforms to the appropriate airfoil listed in the NACA book (source of all those clever racing car airfoils) to give negative lift and keep the weight on the wheels. Since the greater part of the fairing mass is forward of the machine's vertical centerline, the Quasar would yaw like mad without some form of stabilizing at the back. Therefore the enclosed tail is more than a roof support; it's a stabilizing fin performing the same function as on an aircraft. Making it sound very simple, Leaman describes the low-drag streamlining as "fundamental aerodynamics," pointing out that the very first fairing required only minor modifications to cure the Quasar's tendency to dart about, seeking minimum-pressure areas when traveling behind large trucks.

The Quasar chassis is a space frame strengthened by a beam frame in the form of the engine. An immensely strong front bulkhead carries the leading link fork; small-diameter tubes sprout from the bulkhead and form the space frame, roll bar and engine mountings. At the rear, the bearings for the box-section swinging fork are placed exceptionally far apart, and Girling gas shocks provide control. As distinct from the normal shaft-drive practice, the Quasar drive does not go along one fork arm; it is routed separately between the left arm and the wheel.

The steering column and headstock, being sited a number of feet apart, are connected by drag links with 1:1 ratio, and a hydraulic damper is placed between the track rod and the front fork. The fork is a rectangular-section tube carrying Girling gassers with springs hidden in tubular metal covers. Braking is by three 9.5-inch cast-iron discs with Lockheed hydraulics. The front calipers are bolted to a parallelogram linkage without an asymmetric hookup; brake dive is no great problem, thanks to the long wheelbase and low center of gravity (70 per cent of all-up weight is below the steering head). The Quasar makers claim a 26/28-foot stopping distance from 30 mph—and they are unhappy with the patent owners who prevented them using the ultimate refinement of anti-lock brakes.

Fears that junk engineering lurks below the bodywork are pretty well dispelled by the material specifications and high quality components. All spindles are stainless steel, and the fuel tank and exhaust system are likewise fabricated from stainless. Every chassis/steering/suspension bearing is either an adjustable taper roller (three-inch diameter in the headstock) or needle roller; the frame is nylon coated; and the Newell/Leaman "better-than-the-best" design philosophy seems firmly embodied in the complexity of the heat-treated, self-cleaning cast-alloy wheels.

Designed for maximum strength and rigidity, each of the five spokes is divided into a "V" with legs of continually changing section. At the hub, they are slim-line airfoil becoming roughly oval at the rim junction, and with a consistent cross-sectional area throughout. Viewed from any angle, there is no violent change in section as with an "H" nor do the spokes terminate at the hub; rather, they extend across to provide a rim-to-rim stress pattern. The hubs are large in diameter, partly to hold large bearings and partly to dissipate braking heat before it cooks the bearing lubricant.

Back in 1974, Avon produced the "first real motorcycle tubeless tire" (a fair claim) for the Quasar in response to persistent pestering from Newell and Leaman. Nowadays the special 4.25/85H18 Roadrunners are reserved exclusively for Quasar wheels which have three humps bridging the well to prevent tire roll-off in the event of a flat.

Besides full instrumentation, twin 75-watt quartz-halogen headlamps, a huge low-density taillight, windscreen wash'n' wipe and emergency-start facilities, the Quasar offers little luxuries like ducted hot air to your feet and hands. Or, to do the thing in style, you can have the optional extras of radio/cassette player, inertia reel harness, fog lamps, three-cubic-feet panniers, inspection lamp, clock and cigar lighter.

Despite those sanitary distractions, the Big-Q is still fun to ride, after you overcome the initial shock and master the new techniques. On board the Quasar, the novice pilot quakes at the prospect of Sammy Miller U-turns in narrow streets. Moreover, he will experience difficulty in getting his feet down at the precise moment the Quasar stops. Then there's the curious feet-out, knees-bent posture to contend with when balancing the stationary vehicle. Even remembering that the Quasar will fall over requires a good deal of mental concentration. The restricted vision, the invisible front wheel, the air of remoteness are certainly *different.*

But the strangeness passes with experience, and the Quasar starts performing once you stop treating it like a trail bike. On motorways, it's a case of aiming and allowing the Quasar to do the rest. On open, winding roads its stability and speed out of corners are remarkable and the actual speed is 10 mph faster than the impression. With Newell in the cockpit, the Quasar will hold a Guzzi LeMans and the like at bay; with a competent motorcyclist in charge it will devour anything else with 41 bhp. Occasionally the Quasar will accommodate an extra set of elbows, knees and feet to become a two-seater, at the cost of straining the ultimate-tourer description.

At $7220 the Quasar is no bargain for the fellow with a frail bank account. However, Newell and Leaman have a waiting list of 117 anxious customers. Production is running at two a month, and it will rise to five if all goes according to plan. The buyers for the most part are French, rich and egotistic. You can't ride a Quasar if you're an introvert!

Predictably, the Quasar has been tagged "futuristic"; indeed the total-concept cycle may not be that far distant in the minds of safety legislators, once they get tired of messing around with cars. The British road and traffic research people at any rate were highly delighted when "Murphy," their long suffering dummy, survived "with bruising" in the standard 30-mph head-on crunch with a 28-ton concrete block. Murphy was saved by being a long way from the scene of the accident, the relatively slow collapse of the Quasar's front end and its resistance to the end-over-ending.

You may believe the Quasar concept follows the right lines, or you may consider the thing a mad hatter's two-wheeled device. But be warned if you think that traditional bikes are forever. Beware, one Japanese manufacturer has already proposed a five-year standstill on Quasar production in return for the existing design rights.

*—Jim Greening*

# EAGLE A/T

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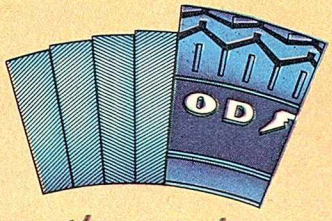
**1.** The carcass of the Eagle A/T is built with Goodyear's exclusive Triple-Tempered nylon, to help assure a tire strong enough to turn that touring power into touring miles.

**2.** The tread of the Eagle A/T is computer designed to handle wet and dry weather. It's always working, taking the power to the road, moving you down the road.



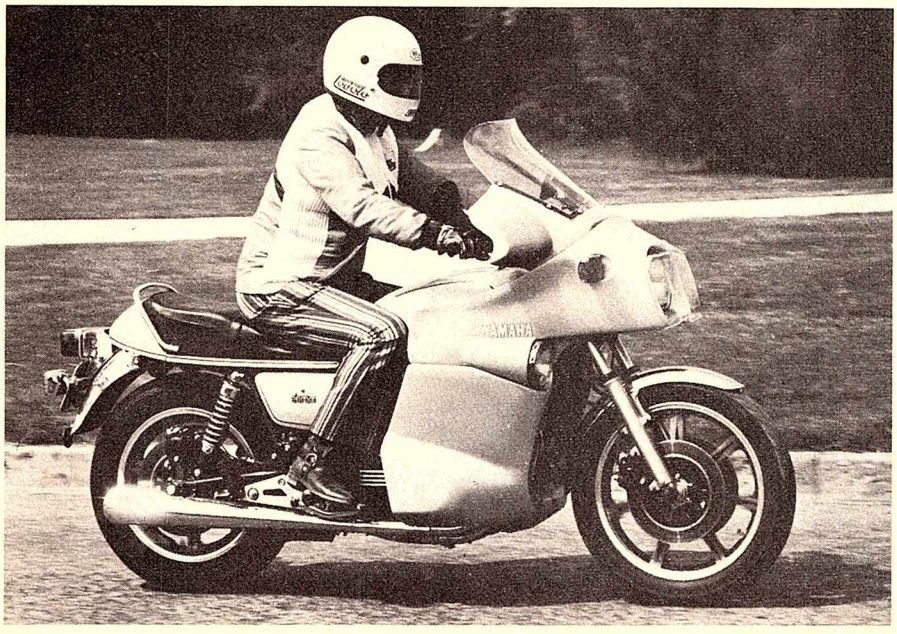

**3.** The Eagle A/T Tubeless, designed for the new lightweight mag wheels, gives you good looks and easy balancing and repairs.

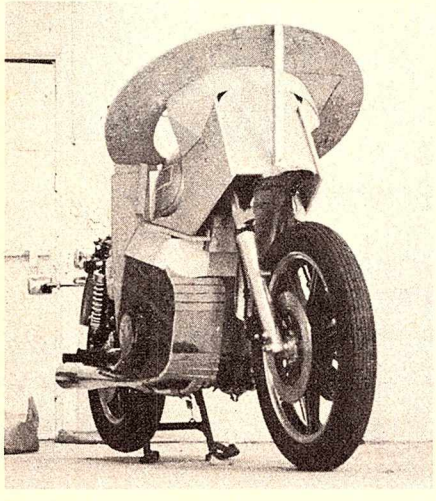
**4.** The Eagle A/T is available in raised white letters or blackwall and carries a Goodyear speed rating of "H." It's a Goodyear Eagle and every Eagle tire is painstakingly engineered to work with a specific type of machine. Ask your Goodyear dealer to match your machine with a set of Eagles. They're built to run with the great designs.

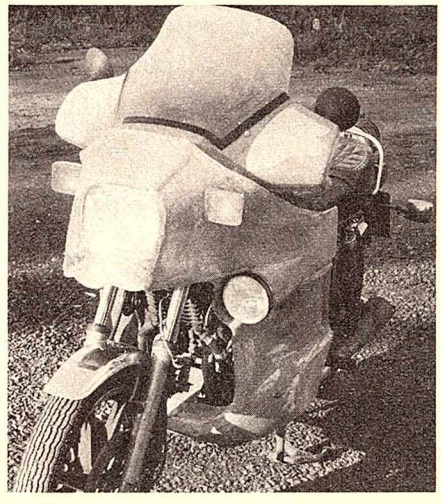
GOODYEAR

# Bits

## Of Wooden Fairings And Fiberglass Mock-Ups







● Different motorcycle accessories require varied levels of research and development sophistication. In order to manufacture efficient fairings, a company must make use of a wind tunnel.

Yamaha International recently designed a fairing for the XS1100. They began with one-fifth scale models and utilized the resources of Lanchester Polytechnic, located in Coventry, England, to give them basic guidelines for development of final, full-size mock-ups. Eventually, the designers reached the point where they had the best fairing possible given the one-piece structure. At this time they chose to institute a radical change: they opted for a two-piece fairing where both hand guards and the wind screen attached separately and moved with the handlebar.

First step (bottom left) of wind tunnel testing is to construct a wooden jig. The disc on top is mounted to determine just how far the handlebar turns. Note that at this point no wind screen had been attached. In the final stages of design development (bottom right), auxiliary driving lights and lockable gloveboxes were added for testing.

The result of all this testing (top) is a factory-optional accessory. The boxed midsection is supported by a steel bracket which in turn mounts to the oil cooler bracket. From this mount, the tube-bracket rises and supports the main body of the fairing. Incorporated into the fairing are gloveboxes, two Cibie driving lights, and the quartz halogen headlight. Engine panels are removable.

The fairing is constructed of fiberglass and steel and is covered with a cellulose paint. Overall weight of the unit is 14 kg (31 lbs); storage capacity is 20 liters.

---

● *MX School:* In less than a decade, Americans have adopted motocross as a serious sport in which only dedicated athletes excel. As such, the notion that racers are born, not made, is behind the times. All athletes need coaching.

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June 19–23 Valencia, California
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June 26–30 Mosier Valley, Texas
June 26–30 Carson City, Nevada
July 3–7 Byron, Illinois
July 3–7 Bend, Oregon
July 10–14 McLeary, Washington
July 10–14 Roaring Branch, Pennsylvania
July 15 &16 Roaring Branch, Pennsylvania
July 17–21 Tipton, Iowa
July 22 & 23 Cocoa, Florida
July 24–28 Lexington, Kentucky
July 31–August 4 Lithia Springs, Georgia
July 31–August 4 Tahlequah, Oklahoma
August 7–11 Columbus, Ohio
August 14–18 Byron, Illinois
August 14–18 Orange, California
August 21–25 Herman, Nebraska
August 28–September 1 Dixon, California
September 4–8 Valencia, California

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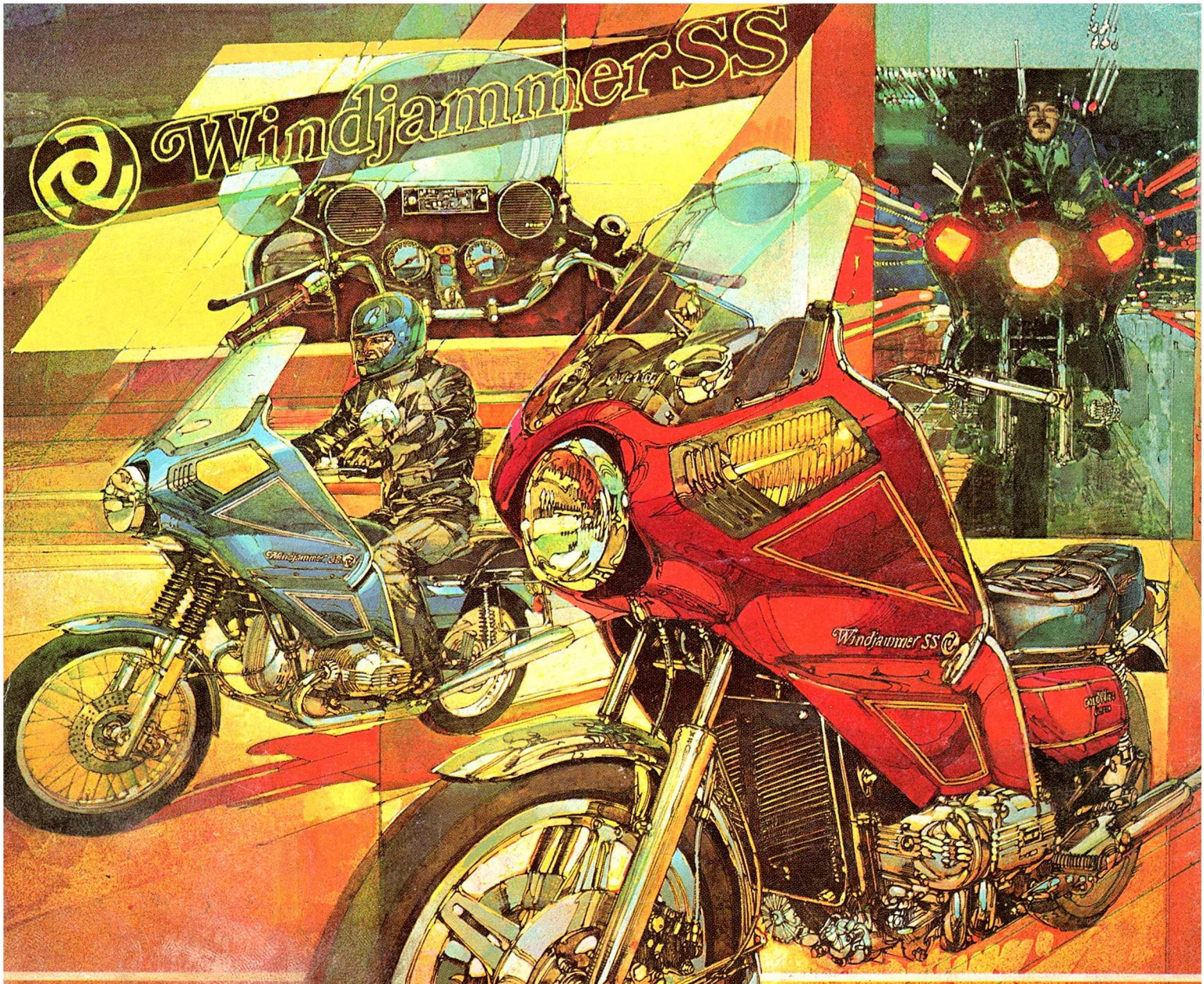


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